

# Manufacturers Record

## Exponent of America



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U. S. Department of Agriculture

Baltimore, Md.  
NOVEMBER 23, 1922

## A Banker's View on How to Make the Federal Reserve System More Valuable.

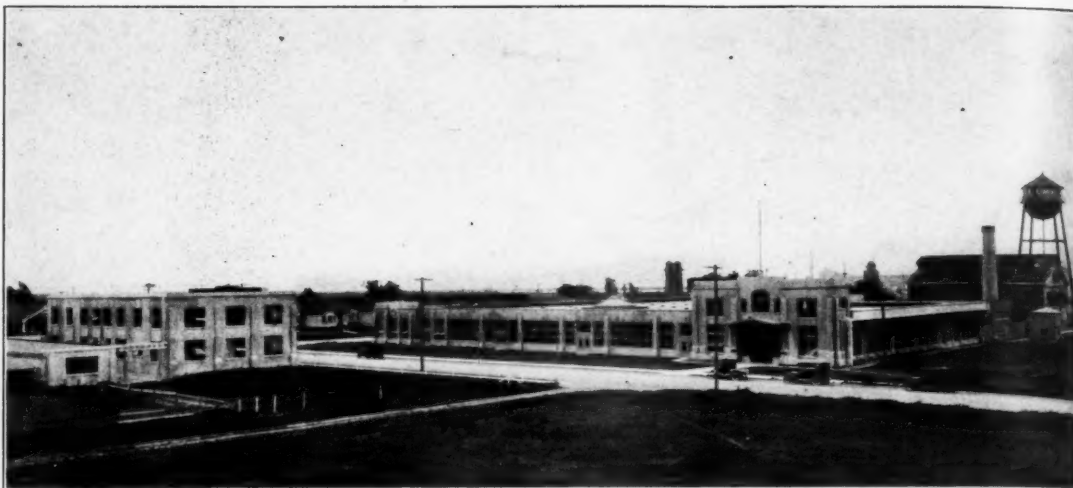
There are few bankers in America who are more highly regarded in the entire banking fraternity of the United States than Mr. Andrew J. Frame, Chairman of the Board of Directors of the Waukesha National Bank, Waukesha, Wisconsin. Mr. Frame has been engaged in the banking business for over sixty years. The Wall Street Journal and other Eastern financial papers have been unstinted in their praise of his abilities as a banker. He is recognized as one of the outstanding authorities of the country on many phases of the banking business. In reply to a request from the Manufacturers Record for information as to his views on certain phases of the activities of the Federal Reserve System, and how that system can be made more valuable to the country, he has written a special article, published in this issue.

Mr. Frame regards the methods of the Federal Reserve banking system in its effort to destroy state banks which will not yield to its domination, as properly described by Judge Cochran, of the United States District Court in Kentucky, who recently referred to these methods as "a kind of refined bank hold-up." He gives the reasons why the big banks of the leading cities of the country approve of some of the laws which now are on the statute books in regard to the Federal Reserve System, especially the one which permits the banks of central reserve cities, such as New York, Chicago and St. Louis, greatly to reduce their cash reserves against deposits and thus make more money than under former conditions. He protests against the law which requires such a large deposit from member banks in the Federal Reserve banks to be locked up and taken out of the active circulating medium of the country. Likewise he protests vigorously against the enormous earnings of the Federal Reserve banks and their extravagant investments in luxurious buildings. He also suggests that the Federal Reserve banks should return to member banks \$1,000,000,000 or more of cash deposits now locked up in these Federal Reserve banks, and thus enable the member banks to use this money for the benefit of business. He counts the present Federal Reserve System under the management which has carried on some of these methods as inimical to the welfare of the country, and in his closing paragraph says:

"We plead that monopoly and oppression, whereunto we are tending, have palsied the world's progress. The paramount question then is, shall we profit by the experience of the past or get knowledge only when trouble overtakes us?"

Mr. Frame denounces the par-clearance systems as destructive of property rights and the methods of its enforcement as immoral, illegal and violative of every principle of good banking.

We commend to our readers this illuminating discussion of a subject vital to every business interest by a banker accounted by all other bankers as among the ablest in the country.



*Plant of the Coast Tire and Rubber Company, East Oakland, California  
The Foundation Company, General Contractors*

**C**OMplete cooperation between the owner and the contractor was exemplified in the construction of the new plant of the Coast Tire and Rubber Company in Oakland, California. In order to meet the market, a factory, a power house and an office building were required in the shortest possible time. Construction was carried along as designs were developed and with particular attention to the wishes of the owner. As a result, space was available for manufacture months before the completion of the whole project. In the end, the owner found that not only had he profited by early occupation of his plant, but also he had acquired an ideal manufacturing group completely satisfactory as to workmanship as well as to cost.

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**BUILDERS OF SUPERSTRUCTURES AS WELL AS SUBSTRUCTURES**



# TRUSCON PLATFORMS

## ALLOY STEEL

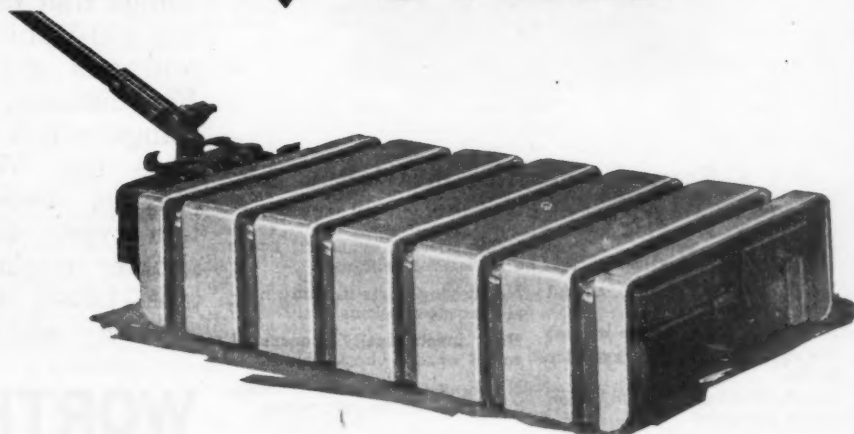
TRUSCON  
PRODUCTS  
TRUSCON  
STEEL CO.

STANDARD SIZES  
TRUSCON PLATFORMS

Height in Clear	Width Inside of Legs	Over- all Width	Over- all Length
6 1/2"	21 3/4"	24"	24"
7 1/2"	27 3/4"	30"	30"
9 1/2"	33 3/4"	36"	36"
10 1/2"	39 3/4"	42"	42"
11 1/2"	45 3/4"	48"	48"
12"			54"
			60"
			66"
			72"

Special sizes made on order

When ordering give full width and height of truck and clearance required.



## Keep All Materials Off the Floor

### Truscon Boxes

For convenience in handling small parts and packages, we make skeleton boxes which fit on any size platforms which we make. Welded securely to platform or equipped with steel stakes which fit into ribs of platform. Boxes are 12", 18" or 24" deep.

Every time material is set on the floor it costs money. It is no more work for an operator who has finished his work or for a shipper who has loaded a box, to place it on a platform than it is to throw it on the floor. By loading such material on platforms and moving it with a lift truck, time and money can be saved.

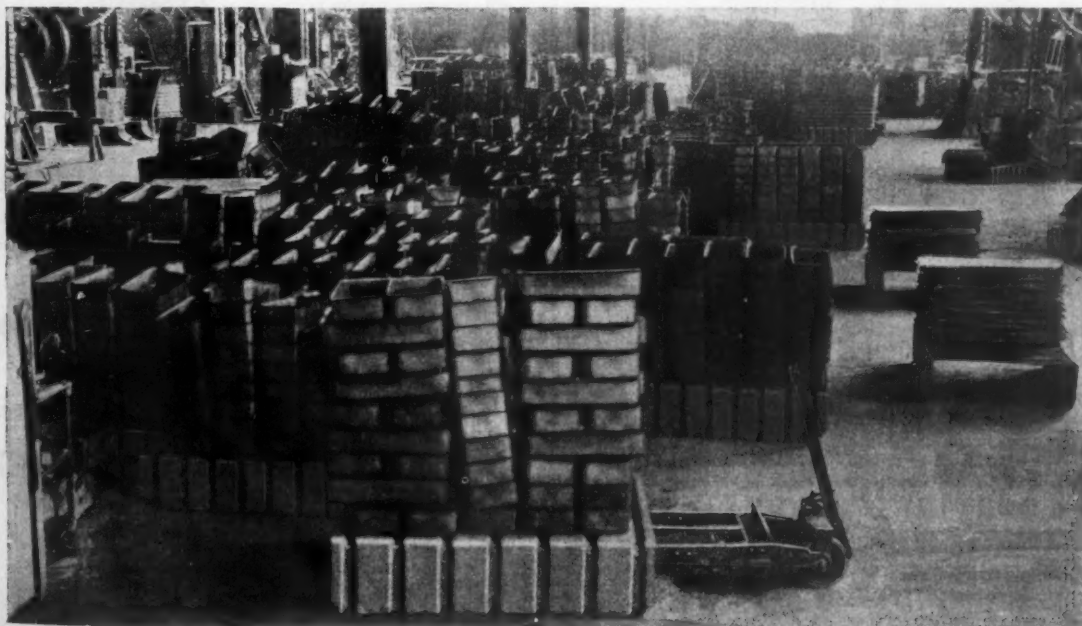
Truscon Steel Platforms are of improved design, assuring exceptional strength. Deep stiffening ribs extend completely around the platform and are perfectly formed at the corners without buckling. The sides are inclined inwards from the vertical, acting as a brace to insure greatest carrying capacities. See table above for sizes; send us information on your requirements and let us quote you.

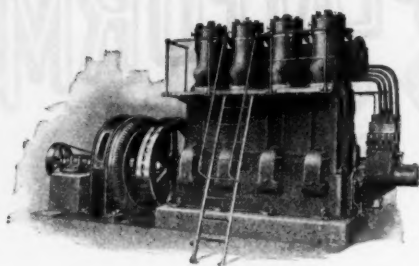
### TRUSCON STEEL COMPANY

YOUNGSTOWN

Representatives in Principal Cities

OHIO





## Think of the Parts Left Out

It's surprising the number of things that can be taken out of the old-fashioned Diesel engine and still get the same results. For instance, look at the list of things which have been omitted from the Worthington Diesel Engine, two-cycle—solid injection type. Certainly this is a simpler engine and yet it is a true Diesel in operating cycle economy and everything else.

### Examples of Simplification

No gears.  
No air compressor.  
No valves to grind except small check valves.  
No cams except for air starter.  
No moving parts on cylinder heads.  
No stuffing boxes on injection pump plungers.

Symmetrical cylinder heads and flat top pistons.  
No moving parts in spray nozzle except check valves.  
No mechanically operated valves except check valves.  
No ignition devices, torches, hot metal or electric wires.

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Executive Offices: 115 Broadway, New York City

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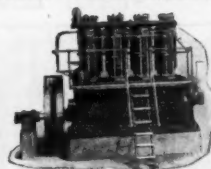
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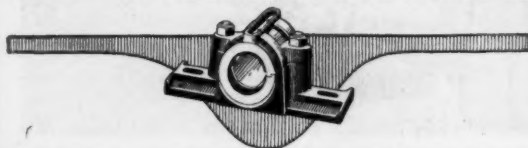
All fuels 6 to 325 H. P.

THE FOOS GAS ENGINE CO., SPRINGFIELD, OHIO

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THE Caldwell line is complete. Bearings—heavy, properly designed, and well finished. Pulleys of ample weight and accurately turned. The entire line has achieved outstanding recognition under hard service. Let us figure on your requirements.

**H. W. CALDWELL & SON CO. LINK-BELT COMPANY, OWNER**  
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**SINGLE VALVE, POPPET VALVE UNIFLOW, AND NON-RE-LEASING CORLISS ENGINES FOR YOUR POWER PLANT.**

Built in sizes 100 to 1600 H.P. for rope drives, belting, or direct connection to saw mills, blowers, mine fans, generating units, air and ammonia compressors.

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**Chuse Engine & Mfg. Co., Mattoon, Ill.**

# The Result of Years of Service

Municipal Plant  
Marshall, Minnesota.  
April 10, 1922.

Hanks Price Co., Agents,  
The Erie City Iron Works,  
Minneapolis, Minnesota.

Gentlemen:

I have your letter of the 7th inst. directed to Mr. F. B. Fowler, and I will answer it as best I can. The Lentz engine was installed in the Summer of 1915, and the said engine has been on duty all of that year, day and night. Since the Fall of 1917 it has been running about half of the time, and has been running all of this time, and has not given the City a minute's trouble. Some small thing wore out but very little cost, and if the City were to buy another, the Lentz would look very fine to the City. I have been recorder for the past six years and know whereof I speak.

A. G. BUMFORD, Recorder.

Ely, Minn. Water & Light Dept.  
April 18, 1912.

Mr. B. L. Hanks, Agent,  
The Erie City Iron Works,  
Minneapolis, Minnesota.

Dear Sir:

The 15 x 18 Lentz engine was purchased from your Company by the City of Ely, and installed and started August 10th, 1915. This engine has been in operation from 18 to 20 hours of the 24 ever since and the only cost for repairs has been a broken spring on the exhaust valves. It has no knocks or pounds; its economy is very good. Altogether it has been very satisfactory.

Very respectfully,

WM. MITCHELL, Supt.

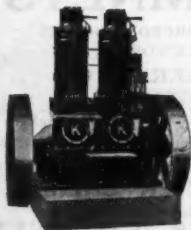
We also build

Vertical Water Tube, Horizontal Water Tube,  
Economic Return Tubular, and Return Tubular  
Stationary Boilers; Also Pulverized Coal Apparatus.

## ERIE CITY IRON WORKS

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### THE IMPROVED ANDERSON OIL ENGINE



#### Is Setting a New Standard

It is not a Diesel nor a Semi-Diesel.  
It is a happy compromise between the two types.  
It retains the simplicity and low first cost of the Semi-Diesel.  
It runs on the same class of fuel as a full Diesel.  
It burns the fuel clean with very little to no smoke.  
It does not require water in the mixture.  
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Sizes from 20 to 325 H.P.

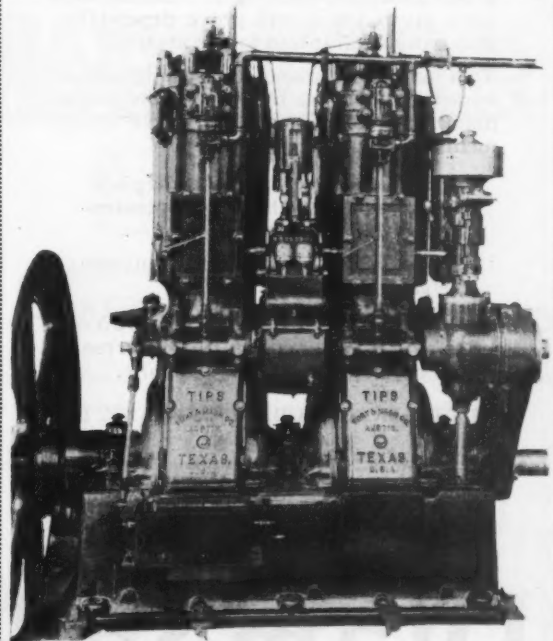
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If you are in the market for the above, get our prices. We are Southern Manufacturers, and not only manufacture, but guarantee our products. We want you to take advantage of our 50 years' experience.

Write us for further information  
and become a satisfied customer.

SCHOFIELD'S IRON WORKS  
Dept. H MACON, GA.



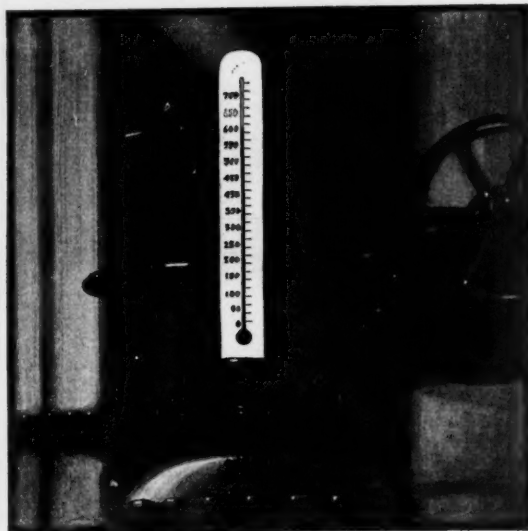
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Sizes 35 to 165 H. P.

Full Chrome Vanadium Crankshafts are just another evidence of Tips honest engine construction.

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*Ask our nearest branch to send you our Packing Booklet containing fourteen money-saving suggestions.*

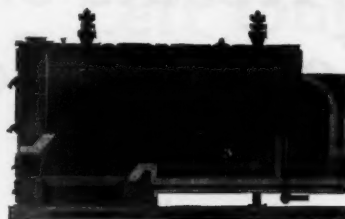
**THE DIAMOND RUBBER COMPANY, INC.**  
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## BOILERS

WITH OR WITHOUT STEEL CASINGS



WE ALSO  
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**ENGINES**  
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## AMERICAN MACHINERY EQUIPMENT COMPANY

Crushing and Drying Department—Complete Equipping of Non-Metallic Mineral and Fertilizer Plants.

Heating Department—Cast iron heating boilers, Wrought iron boilers, Automatic Air Valves and complete line of steam specialties.

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Successors to VALK & MURDOCH CO.

**MARINE AND STATIONARY BOILERS**  
Repairs to Steel and Wooden Vessels

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**RADIAL BRICK CHIMNEYS**  
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Construction Company

Also EXPERTS in  
Repairing Brick and Concrete Chimneys  
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Work done while chimney is in operation, if necessary  
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## THE VILTER MANUFACTURING CO.

8132 Clinton St.  
MILWAUKEE, WIS.



**Ice and Refrigerating  
Machinery**  
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## SOUTHERN ICE MACHINE COMPANY

Manufacturers of

**Ice Making and Refrigerating  
Machinery**

Charlotte,

North Carolina



## AN ICE PLANT???

The Arctic Stationary Can Raw Water System is the one you should buy because in actual daily use it will reduce your running and overhead expenses.

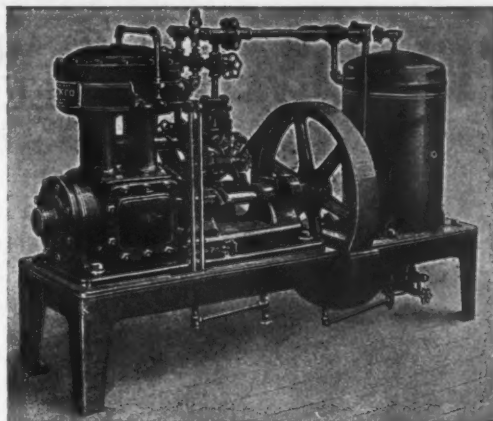
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Decreased Labor—  
Simpler to Operate—  
Cleanest Plant in the World—  
Minimum Cost for Power—  
Most Efficient Air Agitation—  
All Core Water Absolutely Removed—  
Blocks of Uniform Size.

### THE ULTIMATE PLANT

WRITE US FOR DETAILS

**The Arctic Ice Machine Co.**  
Canton, Ohio



### FRICK COMBINED REFRIG- ERATING MACHINE

A simple and efficient small refrigerating plant built in one-ton and two-ton sizes. Portable. No foundation required. Ask our nearest distributor for further details and prices.

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WAYNESBORO, PA. U.S.A.  
ICE MACHINERY SUPERIOR SINCE 1850

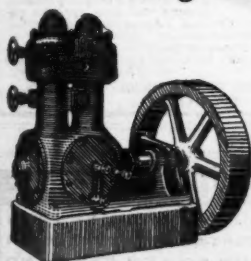
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### York Refrigerating Machinery



There is a YORK Machine to meet every practical condition of Mechanical Refrigeration.

If interested in Refrigeration or the Manufacture of Ice,

Write us.

**YORK MANUFACTURING COMPANY - YORK, PA.**  
Ice-Making and Refrigerating Machinery exclusively

### BAKER SYSTEM REFRIGERATION

NOT to investigate the money saving possibilities of the Baker Ice Machine is an absolute disregard of those progressive principles which increase both business and profits.

Address your inquiry to Department Three.

**BAKER ICE MACHINE CO. Inc.**  
Omaha, Nebraska

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Builders since 1868 of  
Water Tube Boilers  
of continuing reliability

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CINCINNATI, Traction Building  
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DALLAS, TEX., 2001 Magnolia Building  
HONOLULU, H. T., Castle & Cooke Building



#### WORKS

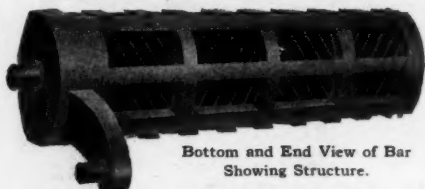
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Barberton, Ohio

Makers of Steam Superheaters  
since 1898 and of Chain Grate  
Stokers since 1893

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NEW ORLEANS, 521-5 Bayonne Street  
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SALT LAKE CITY, 705-6 Kearns Building  
SAN FRANCISCO, Sheldon Building  
LOS ANGELES, 404-6 Central Building  
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HAVANA, CUBA, Calle de Aguiar 104  
SAN JUAN, PORTO RICO, Royal Bank Building

# THOMAS SEMI-STEEL GRATE BARS



Bottom and End View of Bar  
Showing Structure.

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Railroad Exchange Bldg.

CLEVELAND, OHIO  
Hippodrome Bldg.

NEW YORK  
2 Rector St.

NEW ORLEANS  
315 Board of Trade Bldg.

## Save Trouble and Expense

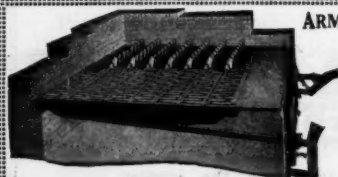
Thomas Semi-Steel Grate Bars have the strength for hard usage, the hardness to withstand the wear and tear, and the toughness to stand the strains and prevent breaks. The higher fusing enables them to resist excessive temperature.

These features make Thomas the ideal Grate Bar.

The Thomas lasts longer, costs less, and effects a saving by eliminating the cleaning period.

*Write for full information.*

**Thomas Grate Bar Co.**  
**BIRMINGHAM, ALA.**



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cut fuel costs from ten  
to forty per cent.  
—Prove it—  
your plant—our expense  
Armstrong Mfg. Company  
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### DIXON'S

PIONEER

BOILER  
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DIXON'S BOILER GRAPHITE  
lessens the time required for  
cleaning, reduces fuel consumption,  
prevents pitting, improves operating of  
feed pumps, prolongs the life of boilers and  
does not injure valves and gaskets on steam lines.  
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JOSEPH DIXON CRUCIBLE CO.  
Jersey City, N. J.

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PURIFICATION SYSTEMS  
SOFTENING & FILTRATION  
FOR BOILER FEED AND  
ALL INDUSTRIAL USES

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### ROBERTS FILTERS FOR CLEAN WATER

Ideally adapted for installation in tex-  
tile mills; raw water ice plants; laundries,  
and for all industrial or municipal require-  
ments.

*"Write for Descriptive Literature."*

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NEW YORK OFFICE—FLATIRON BUILDING.

### GRAVITY FILTERS PRESSURE WATER SOFTENING PLANTS AND HYPOCHLORITE APPARATUS

ALL VARIETIES OF  
CHEMICAL FEEDING DEVICES

*Write for Bulletin 22-3*

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*Member Associated Manufacturers of Water Purifying Equipment*



# McClave 2-A Grates Save Fuel in Hundreds of Sugar Factories

**M**ANY sugar mills that burn bagasse only are equipped with McClave 2-A Grates, which have a long and successful record in this industry.

McClave Combustion Systems of many types are used in the manufacture of sugar in Cuba, South America, the United States and other countries.

In the State of Louisiana alone, 45 of the 125 sugar mills are equipped with McClave 2-A Grates or other McClave systems. Their experience over a period of many years show high economy and a negligible maintenance.

Records of seven to nine years continuous service without any expense for repairs are frequently reported. This is evidence of the careful workmanship and of the quality of the materials used in McClave products.

We will gladly send you a catalog of the McClave 2-A Grates or of any other McClave Combustion System.



Four row McClave 2-A Grate, showing different movements. This grate can be had in one, two, three, four or five rows to fit any size furnace.

## McCLAVE-BROOKS COMPANY

Makers of the famous McClave Grates since 1883

Scranton, Pennsylvania, U.S.A.

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Pittsburgh  
St. Paul

Your engineer will confirm these statements

# McClave COMBUSTION SYSTEMS *for greater economy*



**Positive Oil delivery—**  
in measured quantity.

**LUNKENHEIMER CYLINDER LUBRICATORS**

For Steam, Gas and Oil Engines, Pumps & Compressors,

are a material aid to efficiency in the production of power, safety in operation and economy in maintenance.

They deliver with precision the necessary quantity of oil for reducing frictional resistance to a minimum, effecting a saving of lubricant as well as insuring the service life of the equipment.

Booklets 518-FB and 526-FB contain authoritative data on Cylinder Lubrication and lists all types of Lunkenheim Lubricators. They are yours for the asking.

*"America's Best since 1862"*

**THE LUNKENHEIMER CO.**  
"QUALITY"  
LARGEST MANUFACTURERS OF  
HIGH GRADE EQUIPMENT, SPECIALTIES  
NEW YORK CHICAGO CINCINNATI U.S.A. LONDON  
EXPORT DEPT. 128-135 LAFAYETTE ST., NEW YORK

FIG. 1014  
FIG. 495  
FIG. 496  
FIG. 482

1902-16-62

## DEPENDABLE FIRE BRICK

"HYTEST" "STEVENS" "VULCAN"  
**STEVENS BROS. & CO.**  
ATLANTA



**-PLIBRICO-**  
FOR BOILER SETTINGS AND BAFFLES  
BETTER THAN FIRE-BRICK  
Can Be Installed By Inexperienced Labor  
Will Withstand 3100 Deg. Temperature -  
Shipped in Steel Containers only  
**JOINTLESS FIRE BRICK CO.**  
OFFICE AND FACTORY 133 CLAY ST. CHICAGO

DAILY CAPACITY 150,000  
**A. D. Green**  
**Fire Brick**  
**MEXICO, MISSOURI**

## "Mount Savage" Fire Brick

**UNION MINING COMPANY**  
Plant: Mount Savage, Md. Gen'l Office: Baltimore, Md.

**H. S. TEAL**  
**ANNISTON REFRACTORIES CO.**  
MANUFACTURERS OF  
SILICA AND HIGH GRADE FIRE BRICK  
PREPARED FIRE CLAY A SPECIALTY  
OXFORD, ALA.  
WHEN BETTER BRICK ARE MADE "TEAL" WILL MAKE THEM

**HIGH GRADE FIRE BRICK and GROUND FIRE CLAY**  
**The Portsmouth Refractories Co.**  
General Offices: Portsmouth, Ohio  
Factories: Portsmouth, Ohio, North Works; Portsmouth, Ohio, East Works; Firebrick, Ohio; South Webster, Ohio; Monroe Furnace, Ohio.

**THE OHIO REFRACTORIES CO.**  
IRONTON, OHIO  
HIGH GRADE FIRE BRICK  
GROUND FIRE CLAY

**FIREBRICK**  
**The ASHLAND FIREBRICK CO.**  
ASHLAND, KENTUCKY.

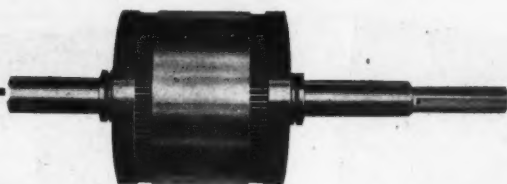


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"AAA"  
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These are the only  
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Write for sample and prices  
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Like all the other parts of the Type NC Motor, the Rotor is built heavier than commercial practice demands.

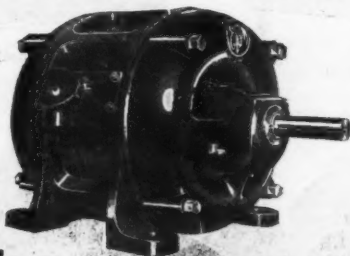
Note the size of the shaft extension for the pulley or gear. This extension is made according to standard practice. Then note the size of the shaft that rests upon the bearing.

The end rings are cast onto the rotor bars and

these rings are heavy enough to stand overload currents without undue heating. In other words there is a large factor of safety.

The laminated portion of the Rotor is ground to a smooth finish. It will not catch dirt and interfere with the proper air gap.

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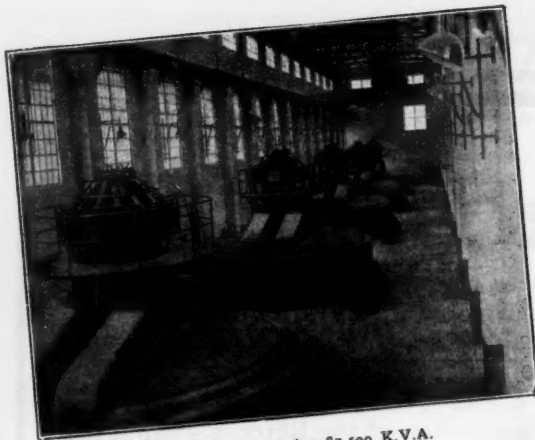
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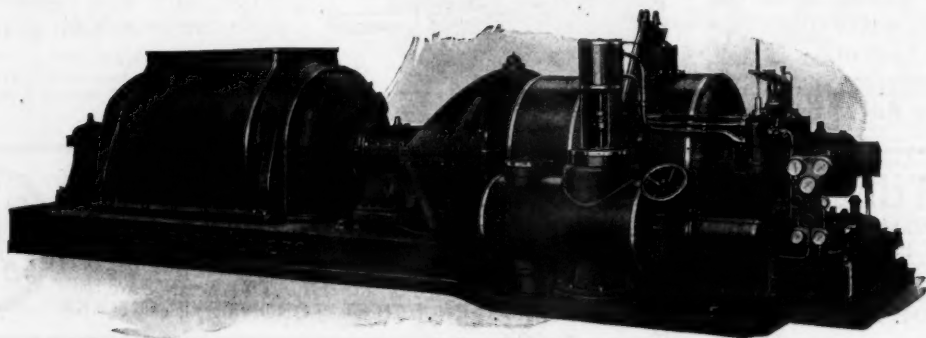




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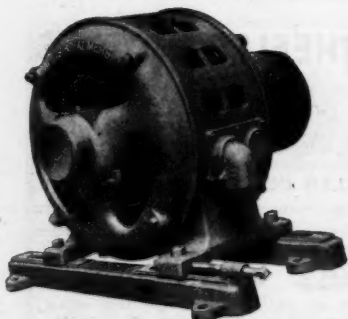
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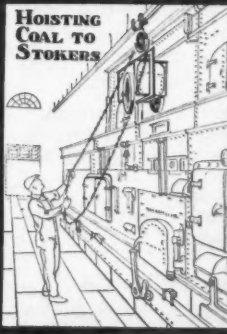
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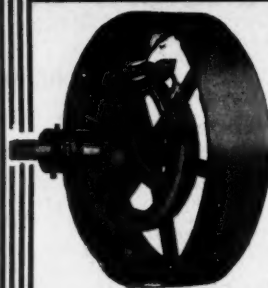
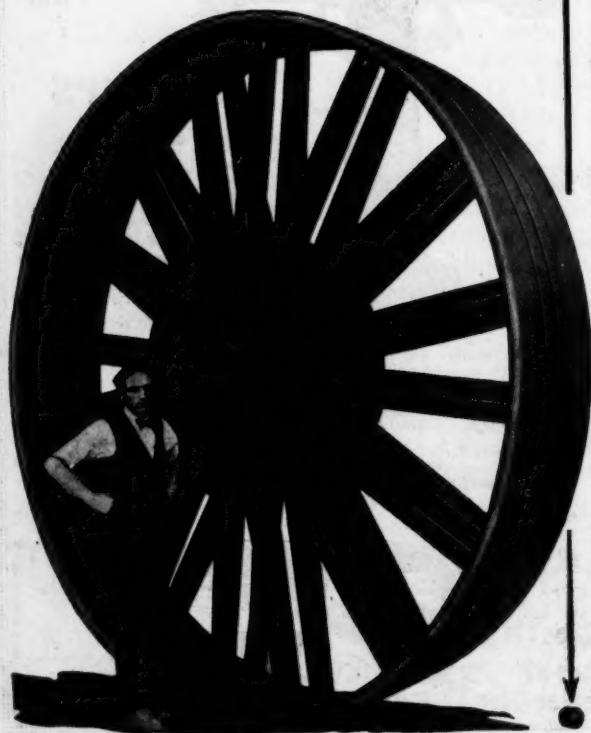
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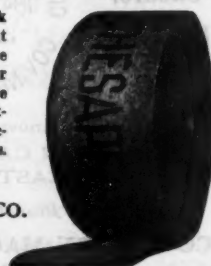
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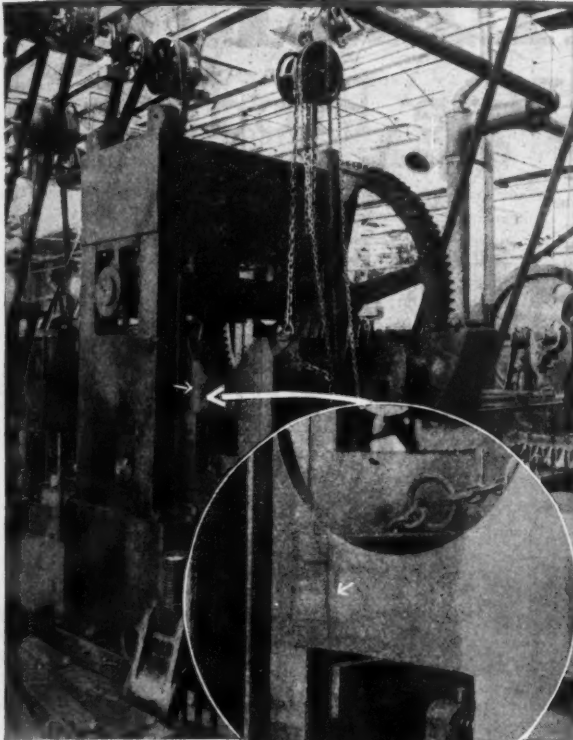
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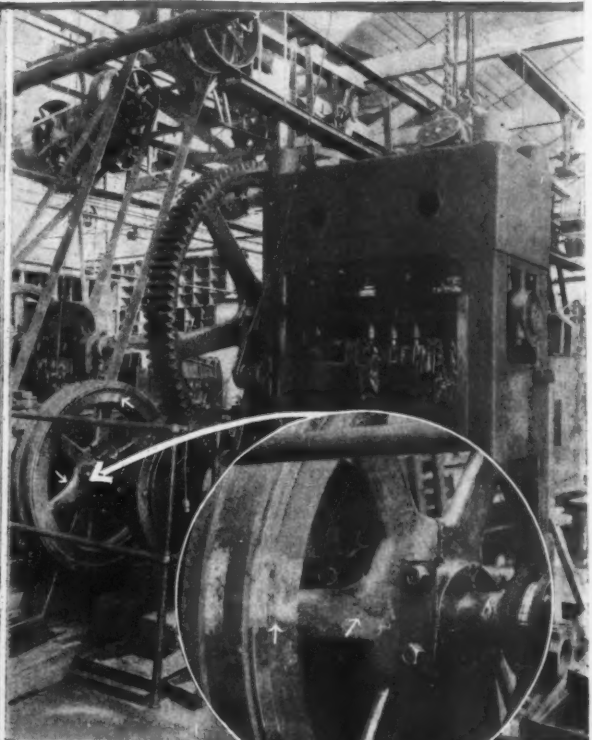




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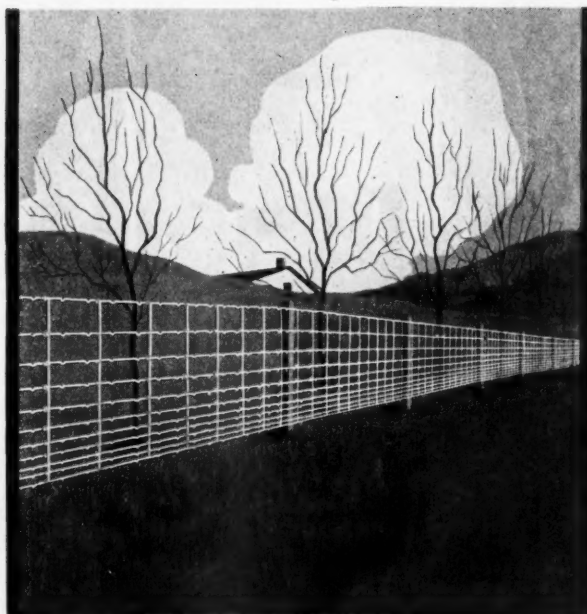
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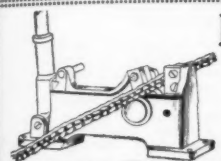


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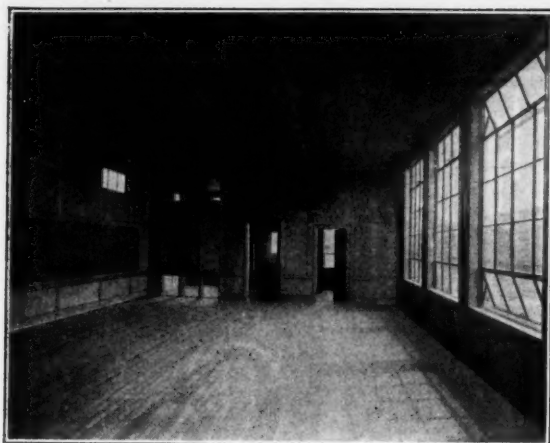
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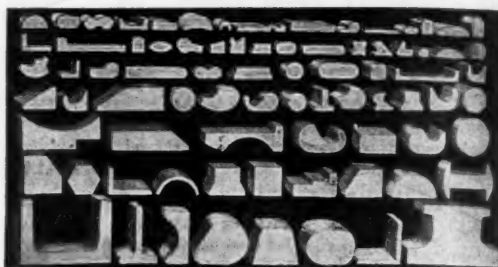
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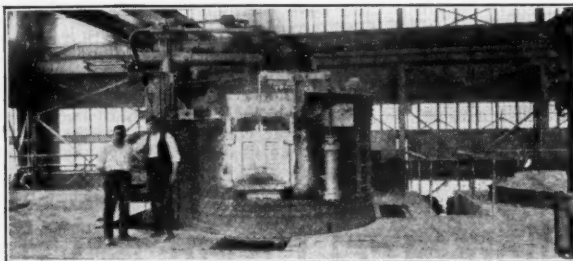


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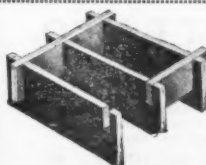
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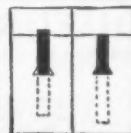
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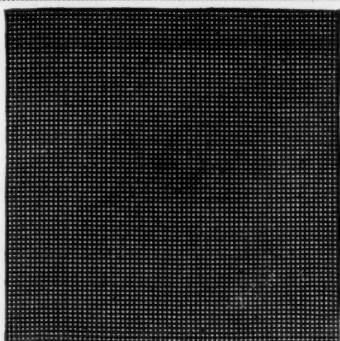


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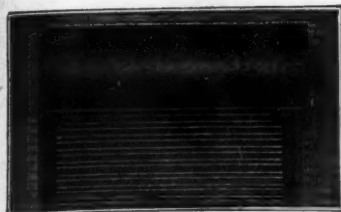
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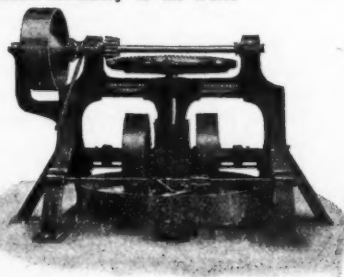
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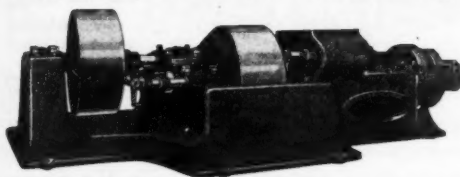
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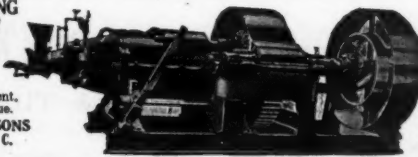
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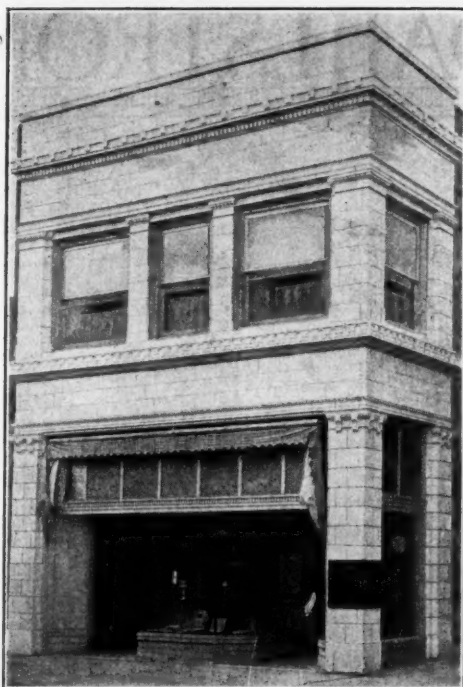
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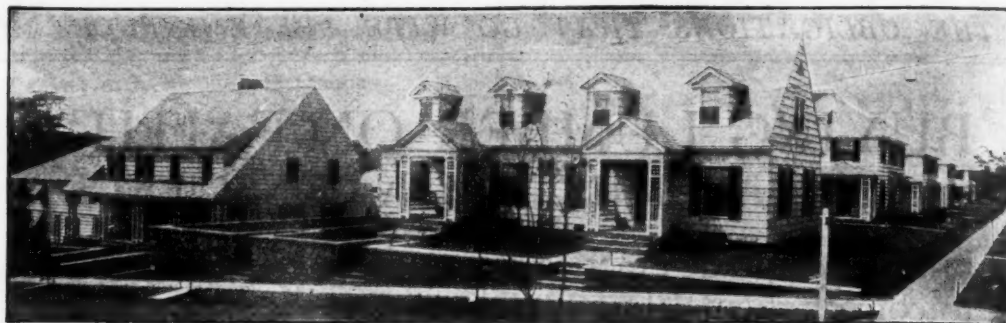
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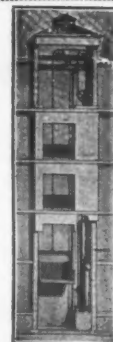
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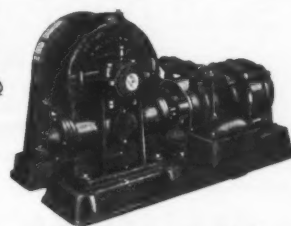
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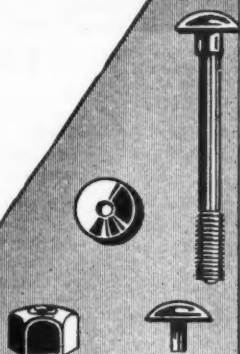
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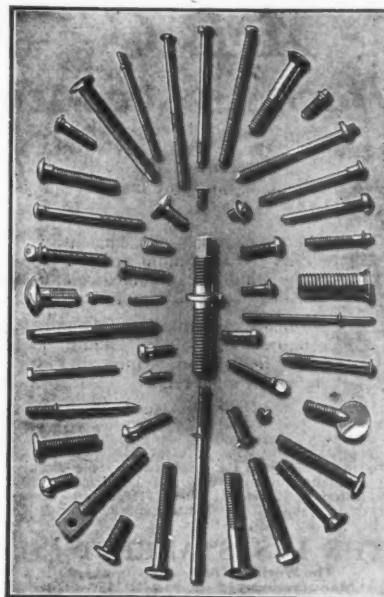


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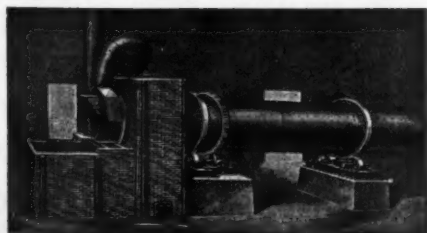
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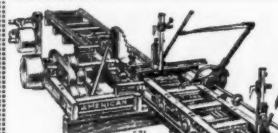
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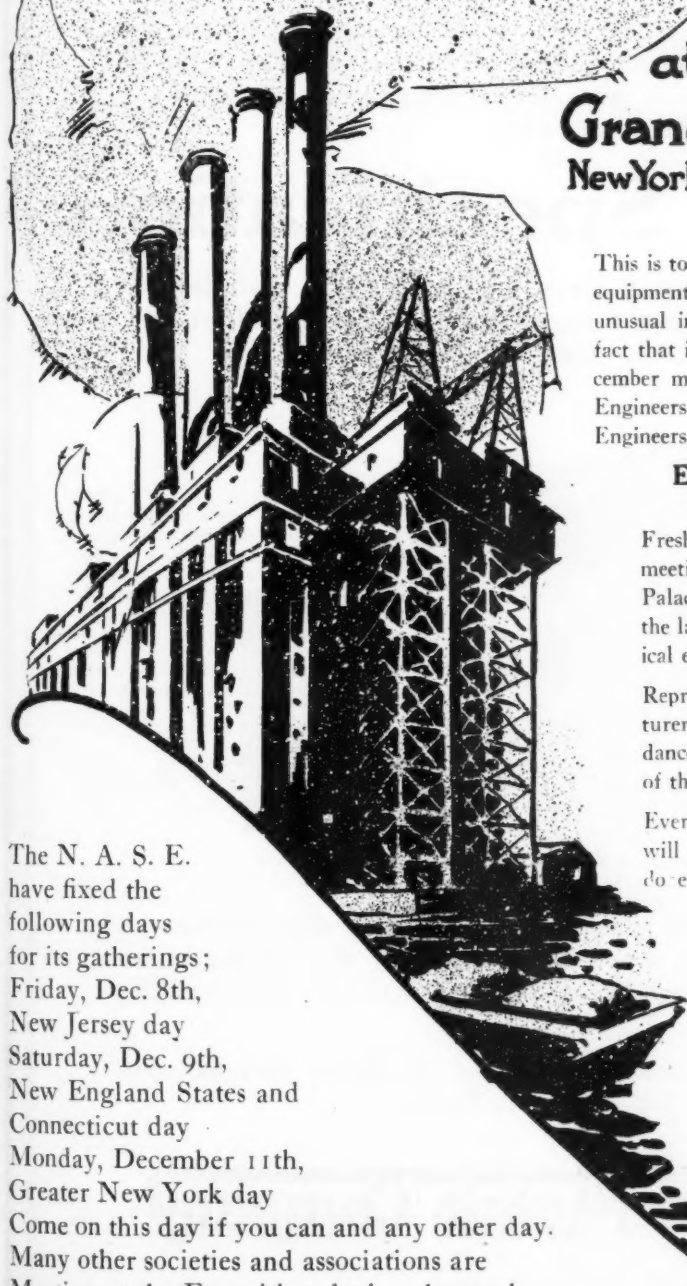
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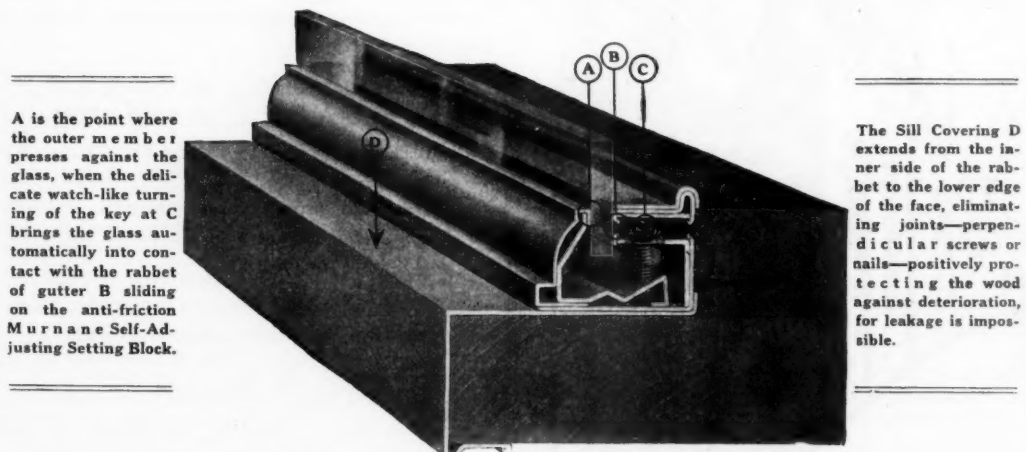
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# Manufacturers Record

Exponent of America

NOVEMBER 23, 1922

Volume LXXXII

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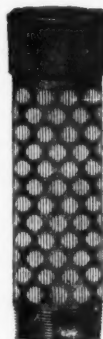
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WEEKLY.

BALTIMORE, NOVEMBER 23, 1922

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## NATIONAL DISARMAMENT WOULD BE NATIONAL SUICIDE.

NO men hate war so much as soldiers, especially commanding officers, who see the horrors of it and view the situation in the broad light of death and destruction. And yet the intelligent officer who realizes that preparedness is essential to national life cannot fail to realize that the talk of disarmament and of steadily cutting down our small army is a crime against future generations.

It has recently been very appropriately said that while we employ 280,000 police in this country to protect ourselves against the criminals at home, we have an army of less than one-half to protect ourselves against possible criminals elsewhere in the shape of nations prepared to fight, and sometimes eager for the fight, if they think like Germany that in such a fight they could win national expansion by looting us.

In an Armistice address General Pershing, referring to the conditions in the East, said:

"The World War," taught us that we cannot regard with indifference the gathering of war clouds in those regions of the world in which we do not appear to be directly interested. For even with the utmost desire to remain aloof from the contest which had been waged during the period extending from 1914 to 1917 we were drawn into it in defense of a great principle.

"So we cannot regard as irrelevant to our interests, and as matters of no concern to our national life the crisis which periodically arises over the storm centers of international strife. It is no time to abandon our purpose to take reasonable precaution for the future. Since the armistice the tension of conflicting interests has often almost reached the breaking point, where, indeed, actual armed conflict has not been in progress.

"Already strong pressure has been exerted for our intervention in the Near East. Demands are daily made that an American military force be dispatched for participation in behalf of our former Allies. Strangely enough, those who appeal most loudly for headlong intervention are those who most vociferously condemn any and all preparation for sudden emergencies."

## CAN THE WORLD FIND NEW SOURCES OF COTTON PRODUCTION TO COMPETE WITH THE SOUTH?

A READER of the MANUFACTURERS RECORD sends us a statement quoted from another paper which, referring to the world's cotton needs, says: "America has reached her limit and other districts that are equally favored with soil and climate must undertake a share of the burden of supplying civilization's requirements." To this our correspondent puts the query, "Do you believe it?"

We do not believe that America has reached its limit of cotton production, despite the boll weevil, which will be eventually conquered, for science is superior,—when put fully to the test,—to the destructive power of any such enemy of crops.

We believe that the South can increase its cotton production within a few years, when the boll weevil has been conquered, provided the world is willing to pay a profitable price to the grower.

We do not believe the South will increase its cotton crop to any material extent except on the basis of a larger profit to the growers than they have ever received in the past, except for the brief period of the war.

The South can turn from cotton production to diversified agriculture and industrial development and make for itself far greater wealth than it can make by growing cotton except at high figures—at least at high figures as compared with prices of the past.

Cotton has been entirely too low since the Civil War, with the exception of one or two brief periods. Some New England and many foreign spinners very frankly and openly fought to break down the price of cotton. They have denounced the efforts of the South to secure a living price. They have kept the cotton grower, white and black, in deepest poverty. They have not cared how great was the poverty, how severe the sufferings of the cotton growers, provided they could buy cotton at a low price and make a big profit in turning it into the finished form.

Well may the South rejoice that all of humanity is not built on that soul-narrowing plan, but that many cotton manufacturers, in the South and North alike, realize that the cotton grower is a part of humanity, and that he is indeed a part of their business.

The grower is a partner with the manufacturer. His success is essential to the manufacturer's success, if the manu-

facturer is to continue to have any raw material for his factory. The cotton manufacturers must recognize that the production of cotton is the first stage in the industry, without which every dollar of their capital invested in mills would be wiped out.

It has long been recognized by the iron and steel interests of the country that they must have an assured supply of iron ore, or otherwise their plants are valueless. Most of the big companies base their entire industry on the ownership of ore and coal lands. The cotton mills cannot in the same way own enough cotton lands to supply their raw material, but they must with equal care see that the cotton growers are essential to their existence, and that the cotton growing industry is safeguarded to such an extent that the South will continue to produce the supplies needed for the mills of America and of the world.

We do not believe that there is any other country in the world equally favored with soil and climate for the production of cotton; or, if a limited area of that kind can be found, it has not the labor supply which will make cotton development an industry of great importance. For one hundred years the cotton growers of England, and the Government itself, have concentrated their efforts upon producing cotton in Africa, in India and elsewhere, in order to be less dependent upon the South as a source of their supply. These efforts have accomplished but little. The promise of success is no greater today than it was seventy-five years ago. Despite all the work that has been done, despite all the discussion in cotton mill and parliamentary circles in England and among cotton manufacturers on the continent, there is nowhere in the world any evidence of a sufficient increase in the world's cotton production within the next quarter of a century to materially affect the world's supply of cotton, or to prove in any way a serious competitor with the South.

Shortly before his death the late Edward Atkinson, who had been a cotton manufacturer and a close investigator of every phase of the cotton industry in this country and abroad, wrote the MANUFACTURERS RECORD that he had investigated climatic and labor conditions in every country in the world with an earnest desire to find some region in which there could be developed a serious competitor with the South as a cotton producer, "but," said he, "there is no possibility, in my opinion, that within the next half century the South is to have any serious competition in cotton growing." He frankly expressed his regret that this was so, "because," said he, "vigorous competition with the South would force that section to produce cotton under better conditions and to handle it from the farm to the factory in a more economic way."

Mr. Atkinson claimed that the only place in the world in which there was any prospect of serious competition with the South was in portions of Argentina, but that there was no likelihood for half a century of a sufficient increase in population in that region to materially add to the world's cotton supply.

In the study of what England has been trying to do for more than a century in creating a cotton growing industry

elsewhere, we cannot find that there is the slightest indication of any greater relative progress being made today than was being made seventy-five years ago. When carefully sifted all of the reports about cotton growing in Africa and Brazil and elsewhere amount only to a suggestion that possibly within the next thirty to fifty years some of these countries may develop into fairly large cotton producing regions; but there is no evidence whatever that for some years to come will their cotton production increase to a sufficient extent to take care of the world's rapidly increasing demand for cotton.

The essential thing for the South to do is to produce first its own foodstuffs in order that every farmer may be self-sustaining in the matter of food and decrease its cotton acreage to such an extent that this may be properly handled through intensive cultivation.

Cotton acreage should be largely decreased, it should be more heavily fertilized and more intensively cultivated, and under these conditions the boll weevil problem may be met and the South continue to raise a fair supply of cotton. We see no likelihood, however, for some years to come, of the South seriously increasing its cotton supply except at prices heretofore regarded as impossible to secure.

Moreover, it is the duty of every well wisher of the South to discourage increased acreage in cotton, and to encourage increased acreage in foodstuffs. It would be a calamity to this section if the higher prices now prevailing should tempt the farmers to prepare for a larger acreage. They could not cultivate it properly if they did so. Slovenly cultivation would simply increase the ravages of the boll weevil, and the destruction by the weevil might far exceed any possible increase by larger acreage.

In a rather careful study for the last forty years of the efforts which have made for over a century to grow cotton in other lands, the MANUFACTURERS RECORD still adheres to the position which it has long held, that there is no serious competition with the South in sight for many years. It does not believe that the South should make any effort to increase its cotton production over the yield of this year, except on a basis of prices which would make the world pay a living profit for this essential staple.

**Measured by what should have been a fair valuation for cotton during the last fifty years, this section has made a present to the world out of its resources of muscle and brain and soul of not less than 20 billion dollars.**

During that period its cotton crop has sold for at least 20 billion dollars less than a fair price would have brought.

The South has given of its very heart's blood for the enrichment of others, the manufacturers and the wearers of cotton goods throughout the world. It has impoverished itself for their benefit. It has kept its small cotton growers in poverty and in illiteracy. It has forced them to live in huts unfit for human habitation. It has permitted them to be enslaved, physically, financially and mentally, by selling their cotton at an average of less than one-half of the price at which it should have been commanded during the last fifty years.

The Southern cotton growers are now in a position to

say that they will not continue in slavery merely to enrich others who are abundantly able to pay a living price for what they produce. If the 20 billion dollars which the South should have received in addition to what it has had from the cotton crops of the last fifty years had been paid into this section there would have been throughout the South a degree of prosperity commensurate with its marvelous advantages. Everywhere would be seen comfortable homes for the cotton grower. Everywhere there would be better schools and better church buildings and broader development of whites and blacks alike. Women and children would have been kept out of the cotton fields and the wealth of this section today would be far more than double what it is, because that 20 billion dollars of extra income which it should have had, but of which it has been robbed—and we use the word robbed advisedly—would have been the basis for an increase in wealth which would have placed the wealth of this Southern land of ours beyond our comprehension and made it a veritable Garden of Eden, a land of milk and honey, a land of education, of religious advancement, of moral upbuilding, a land whose prosperity and progress would have commanded the admiration of the world.

It is now in the power of the people of the South—and every man, woman and child, white and black, is vitally interested in this fact—to create through a fair price for a reduced cotton crop a prosperity rivalling that of any other country on earth.

Co-operation between growers, land owners, tenants, bankers, merchants, editors, teachers, women's clubs and all other organizations—a co-operation which means the betterment of humanity and the lifting up of the downcast and the down-trodden—can bring this condition about. Will the South realize and utilize this opportunity?

#### COL. VESTAL CLAIMS THAT GERMANY'S INTERNAL WAR DEBT MUST BE REPUDIATED, AS WAS THAT OF THE CONFEDERACY.

LEADERS of the MANUFACTURERS RECORD will remember that during the European War this paper repeatedly took the position that at the close of the war the peace terms should require the repudiation by Germany of every dollar of indebtedness in the shape of bonds or notes or in any other form, incurred by the German Government for the carrying on of the war.

It was pointed out that only in this way German people, rich and poor alike, who had gladly subscribed to these securities in gleeful anticipation of being able to loot the world and thus enrich themselves and Germany, could be made to appreciate the horrors of a war inaugurated, as was this war, for the express purpose of world looting. It was said repeatedly that the adoption of such a plan in the case of Germany would go a long way towards preventing other countries from beginning an aggressive warfare, and only in this way could the German people be made to pay in part by their own losses for the diabolical crime of war.

In these discussions it was repeatedly pointed out that at the close of the Civil War the entire indebtedness of every kind incurred by the Confederacy was repudiated by legal action, so that the Southern States could never individually or collectively undertake to repay a single dollar of the in-

debtedness incurred by them in that war. And the question was asked, why should Germany, with its fearful crime against civilization, be treated with greater leniency in this respect than the South which fought not a war of aggression, but a war for what it believed to be a principle, and for which it felt it had a constitutional right to contend?

We are glad to see that the views which we expressed from time to time during the four years of war are strongly urged in a series of articles by Col. S. C. Vestal in the New York Times Magazine. Col. Vestal says the war debt contracted by Germany herself should, under the Treaty of Versailles, have been forcibly repudiated and rendered null and void. "Such measures," said he, "would have assured the credit of the 'Allies' of the future, and served as a warning to financiers in general; and to the people of each and every nation, not to lend money to states waging wars of aggression upon their neighbors."

And he adds: "The action of the United States at the close of the Civil War in regard to the Confederate debt is suggestive of the treatment which should have been meted out to Germany at Versailles. It furnishes a model of perfection for the settlement of the financial responsibilities of the German people."

Col. Vestal calls attention to the fact that not only was the South forbidden ever to repay any of the Confederate debts, but that it was required to share with the North in the cost to the Union in the suppression of the Civil War. "The debt, by the 14th Amendment," says he, "was rendered null and void, while through the operation of the revenue laws the States of the Confederacy were compelled to pay a proportionate part of the debt of the United States and of the cost of pensions to the Union soldiers." He suggests that the first article of the Treaty of Versailles should have declared the debt of Imperial Germany contracted after August 2, 1914, including all issues of bonds, paper money, etc. "after that date, null and void, with the exception of forced loans in allied territories." "Such a repudiation," says he, "embodied in the Treaty of Peace would have warned the citizens of all nations against financing their governments in the future in wanton attacks upon their neighbors." And he adds:

"The interests of Germany would have been promoted by compelling her to repudiate her war debt, for it would have saved her from the long agony of a depreciating currency. Repudiation was at that time, and is today, her inevitable lot. \* \* \* Repudiation of the internal debt would neither increase nor decrease the wealth of Germany. She would still have her industrial plants, her mines, her agriculture, and her numerous and industrious population. It would only change the internal distribution of property. \* \* \* From the beginning she planned to pay for the war by an indemnity imposed upon her enemies. Thus she deliberately condemned herself to repudiation unless she gained a victory that would enable her to lay an indemnity upon the rest of the world."

We are glad to see at this late date the position taken during the entire war by the MANUFACTURERS RECORD so strongly sustained by Col. Vestal's exceedingly interesting presentation of the whole subject, of which we have only taken a sentence here and there.

#### GREAT POSSIBILITIES IN TWO BIG PROJECTS.

Wichita Falls, Tex., November 9.

Editor Manufacturers Record:

Let's open the Great Lakes-St. Lawrence waterway and obtain "more water" for the rail interests.

Henry Ford, with the Muscle Shoals project in full operation, could, I believe, produce sufficient "fertilizer" to make "big men" of his present antagonizers.

C. H. FOOTE.



## A NORTH CAROLINIAN'S IMPRESSIONS OF SOME EUROPEAN CONDITIONS.

**T**O a wide awake American who values the comforts of life which we have learned to expect, who likes to transact business with dispatch and get action, who prefers to wake up in the morning with a feeling of security that his neighbors in the next country will not be up in arms against him before night, America is the only place to live." Such is the outstanding impression of Mr. E. S. Draper, landscape architect and city planner of Charlotte, N. C., after three and a half months of travel and careful observation in France, Germany, Italy, Holland and England. This statement was made, according to Mr. Draper, not out of disparagement toward Europe but even in the face of all the wonderful features of Europe; its glorious art treasures, and its beautiful scenic views.

The favorite indoor sport in Europe is betting on exchanges and Americans soon get accustomed to "shopping for exchange," particularly in countries like Germany, where it fluctuates so rapidly. In the currency of the particular country in which one is traveling, every article of food and clothing seems exorbitant, expressed in local money—according to Mr. Draper—but in American dollars the articles were so cheap that "it seemed too good to be true."

Speaking of the drink habit on the Continent, Mr. Draper said, "True, the continental does not get drunk, but he is so well soaked all the time that it would be difficult to get him drunk, and consequently, quick thinking and quick action, as we know it in business in America, is hardly the rule in Europe."

"I could not help but contrast the observance of Sunday in the continental resorts, with their kursaals or gambling casinos crowded with people, with our own Southland." In England he found a different atmosphere—a different conception of life and work, and as a result of this there exists a broader-minded attitude than on the continent toward the reconstruction of Europe at large.

The political situation in Europe is always of interest to Americans, and upon being questioned concerning his impression of the present political outlook, Mr. Draper said: "It is almost impossible for an American to believe the atmosphere of hate, intrigue and feverish preparation for the next war in which most of the continental nations live, and that the fundamental cause of the great wars which have taken place in Europe year after year is the failure of religion to function in the lives of the people, and that is exactly as true of Protestant as well as Catholic nations.

"The truth of the matter is that Germany has outwitted the Allies since the armistice, by placing billions of dollars of foreign investments out of reach of taxation, and by cleverly planning the depreciation of her own currency, in order to enable her to more easily build up her own internal assets, at the same time presenting a bankrupt face to the world. The Germans are doing more new construction work, railroad improvements, industrial developments, etc., than all the rest of Europe combined (excepting the rehabilitation of the devastated areas in France and Belgium). I believe it to be a fact from personal observation that the German people do not realize that they were defeated, and would fight France tomorrow if they could."

## EXCEEDS EXPECTATIONS.

**D**ESPITE all the denunciation of the Fordney Tariff Bill on the ground that it would shut out from this market foreign goods, our importations continue heavy, and the revenue receipts therefrom are now running on the estimated basis of more than \$100,000,000 a year in excess of the highest amount the country has ever before collected from imports.

## MISSION SCHOOL IN KOREA MAKING FINE TEXTILE UNDER SOUTHERN LEADERSHIP.

**I**N Songdo, Korea, is located the Songdo Higher-Common School established under the auspices of the M. E. Church South. The feature of this school is a textile department, with an electrically driven, modernly equipped weaving and dyeing plant, where Korean Christian boys who want an education can secure it if they are willing to work five hours a day for the privilege of going to school the other half of the day. The boys are given practical training in self-reliance, personal independence, true economic values, and the fundamental principles of a successful life. In short, they receive a character development no ordinary educational system gives.

The product of the plant is sold to consumers under the trade name of "Korean Mission Cloth," and comprises shirtings and dress goods, fast solid colors, stripes, checks and plaids, said to be as fine in quality as linen. Much of the success of this undertaking may be attributed to the work of a Southern textile expert, C. H. Deal, of South Carolina. The plant is now run entirely by students with the exception of a "skeleton crew" of seven experts who oversee the various processes and help knit the organization together into a unit.

The school is now self-supporting and the students are paid on a piece basis for their labor, as near as possible according to the value of their service. They earn sufficient to pay for their books, tuition, board and lodging and incidental school expenses, and are able to save enough during four years on half-time work and study to pay all their expenses during the last two years at full-time study. Out of sixty-seven working students, nine are working for an education in order that they may educate others; six propose to devote their lives to literature; twenty-seven have the ministry as their life purpose, and the twenty-five who have business and industry in view intend to relate their work to the advancement of Christianity in Korea.

In a recent letter Mr. C. H. Deal, writing in regard to the operations of the school over which he presides, says:

"Dr. Sherwood Eddy, who visited us a few days ago, declared this to be the most significant enterprise he had seen or heard of in Korea. I am mailing you a set of samples of our Korea mission cloth, which is famous all over the Far East, and which is now being sold to 10,000 individual customers in 22 countries all over the world. I have just received an inquiry from Fifth Avenue, New York, wanting to handle our goods in America in large quantities.

"I left the—Mill almost two years ago, as soon as the machinery was installed, and came here to develop this plant, which I had started before going to Spartanburg. I am just itching to get back and develop a model, Christian, industrial enterprise in North Carolina, my home state."

## GO AND DO LIKEWISE.

**R**EV. J. W. CRENSHAW, Cadiz, Ky., in a letter to the MANUFACTURERS RECORD writes:

"Through the courtesy of a friend your most valuable pamphlet 'The Prohibition Question,' came into my hands. I have taken the liberty of preparing a series of articles for the local paper (The Cadiz Record) and quoting extensively from the pamphlet. In doing this, I have so cut and mutilated my copy that I am inclosing one dollar for two new copies, one to replace the mutilated loaned copy, and one copy for myself. I will have the publishers send you The RECORD as the articles appear. We owe you a debt of gratitude that can never be repaid for this splendid book."

If every purchaser of a copy of "The Prohibition Question Viewed From the Economic and Moral Standpoint" (price 50c) published some months ago by the MANUFACTURERS RECORD, would pass it on to others that they too might see the facts presented in behalf of Prohibition, the value of this information would be spread broadcast through the country.

## WEALTH MUST BE CREATED BY BIG NATIONAL CONSTRUCTION UNDERTAKINGS.

SECRETARY OF COMMERCE HERBERT HOOVER in a recent address followed so directly along the line of what the MANUFACTURERS RECORD has constantly advocated when in pointing out the best method for the development of the country he said:

"By stimulating the growth of national wealth we should increase the taxable area and reduce the burden of each individual. As an instance of this I have for sometime been officially engaged in consideration of the problem of the Colorado river. With the development of irrigation and power in this great basin we shall eventually add an agricultural area to the United States as great as the state of Maryland, and within the span of a generation we shall be able to add some billions to our national wealth."

From the ending of the war the MANUFACTURERS RECORD has never ceased to insist that the way to bring national prosperity and help to carry the burden of national indebtedness is to be found in the larger development of our natural advantages. If this country would promptly carry forward, even at large expenditure, the development of the Muscle Shoals situation and the opening thereby of navigation on the Tennessee river, the improvement to the fullest extent possible of navigation on the Ohio and Mississippi rivers, the building of the proposed Great Lakes-St. Lawrence canal and the drainage of the wet or overflowed lands of the South, we could bring about a national prosperity that would within a generation largely more than offset the entire national indebtedness as it now stands.

It was the building of our trans-continental roads after the Civil War, and the daring spirit which put into effect the constructive works of that day, which brought about the enormous development of the United States and the opening of the vast prairie regions of the West, enabling us to help feed the world, which created national prosperity and made possible the payment of the debt incurred by the Civil War without any strain upon our nation.

The cost of the European war to this country and the burden of the debt which we now carry are triflingly small in comparison with the cost of the Civil War and the burden of indebtedness which that created, when compared with the wealth of this country and our opportunities for the development of wealth by the utilization of our boundless resources. When broad visioned men see that big profits can be earned by the enlargement of their operations they do not hesitate to go forward, even though they may have to borrow money to do so.

It was borrowed capital which built our railroads; borrowed capital which created our iron and steel interests; borrowed capital which made possible the development of other enterprises. This capital was borrowed from the public in the shape of bonds or from stockholders who dared to risk their own money for the sake of the possible profits to be earned.

It was borrowed capital which enabled Cassatt to double the transportation facilities of the Pennsylvania Railroad; and if Cassatt had failed to see and seize that opportunity the Pennsylvania Railroad would have been broken down physically long before this, and that would have been followed by financial breakdown; for there is a point where increasing business beyond facilities lessens the possibility of doing business to a profit.

It was borrowed capital which enabled E. H. Harriman to carry on the vast operations for the expansion of the facilities of the Union Pacific and the Southern Pacific. It was borrowed capital which enabled Hill to work the miracles wrought by him in the development of the Northwest.

This nation can well afford to follow the example of these men and borrow the capital or the money needed to carry

on every great enterprise which is purely national in its character, such as river and harbor improvements, which cannot be made by individual states, since the Federal Government controls rivers and harbors.

Away then with the narrow financial view which tends to impoverishment when the withholding of capital halts great constructive enterprises! It is entirely possible for this country through the development of the things that can be done only by the Federal Government to create a wealth so vast that the national debt as it now stands would become merely a bagatelle, easily carried and easily paid off.

We are glad to see that Mr. Hoover, in the statement we have quoted from him, is following so directly the policy long advocated by this paper.

## WILL THE DEMOCRATIC PARTY BE LED TO UPHOLD THE 'WET' INTERESTS?

GOVERNOR EDWARDS of New Jersey was elected to the United States Senate on a straight "wet" platform. As governor he has been against prohibition, and his campaign against Senator Freylinghuysen, who ran on a "dry" platform, was on a definite wet platform.

Elected on this platform, he has received an enthusiastic letter of congratulation from former President Woodrow Wilson, who welcomes him to Washington to "colloque" for the future.

We wonder if this means that Mr. Wilson will endeavor to lead the Democratic party to make its next presidential campaign as a representative of the "wet" interests. We hope not, but it is certainly a strong endorsement by Mr. Wilson of a man who is mainly known by his fight against Prohibition, and by which he won his election to the United States Senate.

The Baltimore Sun, an enthusiastic admirer of Mr. Wilson, in discussing the subject, says:

"To use a word which we really abominate in this particular sense, we are very much 'intrigued' with ex-President Wilson's use of the word 'colloque' in his letter to Governor Edwards of New Jersey. The letter is, for more than one reason, worth reproduction in the editorial column, and we do not apologize for its repetition:

My Dear Governor—I was hoping to have a chance to take you by the hand and congratulate you on the new honors that have come to you. Now we shall, after a while, both be Washingtonians, and we can then colloque on the events, old and new, to our hearts' content.

With warmest appreciation and most cordial greetings,

Faithfully yours,

WOODROW WILSON.

"Many persons will get out their dictionaries, as we did, to become better acquainted with 'colloque,' which, though of a lineage easily traceable by the classical scholar, seems to have gathered certain curious implications during its descent to us, just as man has done in his long descent from Adam. The dear dictionary, that book of manifold consolations for the ignorant, introduces us thus to 'colloque':

To converse; to hold a colloquy; to confer secretly, especially with mischievous intent; to talk confidentially, with suggestion of plotting; to use flattery and deceit; to wheedle.

"Of course, Mr. Wilson meant simply that he wanted to talk to Governor Edwards like a colleague or an elder brother, to welcome him to the Washington Democratic family as a boy worthy of the breed. Everybody who knows him knows that he would not 'confer secretly' with any one, 'especially with mischievous intent,' or 'talk confidentially, with a suggestion of plotting.' Far less would he condescend to 'flatter' or 'wheedle' anybody. Senators Reed and Lodge can testify to this, and so could Col. William Jennings Bryan and that other colonel of militia fame, Mr. House, of Texas, who fell like Lucifer from Heaven.

"The probabilities are that Mr. Wilson himself, learned as he is, did not know that this innocent-looking word, which has the harmless appearance of a high-brow university graduate incumbered with a Ph. D., was 'loaded' with so many Machiavelian suggestions. We can imagine what his horror would have been had he caught an old fox like Clemenceau using it, or one of our American sons of Belial, like Lodge or Reed. We rather think Mr. Wilson's tongue slipped when

he dictated 'collogue,' and that he did not realize its inherent naughtiness, that it was a word 'fit for treason, stratagems and spoils.'

"Nevertheless, we thank him for 'collogue.' It has a sonorous rumble and suggests the martial sound of the 'long roll' of mighty drums summoning warriors to battle. The letter, with its warm tone of enthusiasm, its militant note, its challenge to political foes, may well send a thrill of joy through the hearts of a revitalized Democracy. Collogue or no collogue, good old Woodrow is beginning to make Harding 'normalcy' feel a little anxious and uneasy."

But the real question is when Mr. Wilson "collogues" with Gov. Edwards, the "wettest of the wet," will he "talk confidentially with a suggestion of plotting" as to how to make the Democratic party the representative of the "wet" interests in the next presidential election? We hope for his own sake, and for that of the Democratic party he will not "collogue" for that purpose, for if some Eastern Democrats are "wet," millions of other Democrats are "dry."

### LAST MONTH'S COTTON CONSUMPTION HIGHEST IN TWO YEARS.

WITH a cotton consumption of 533,950 bales in October, the mills of the United States consumed more cotton that month than in any previous month in the past two years. It was an increase of over 38,000 bales over September consumption and about the same increase over October, 1921. The number of active spindles increased in the South by about 500,000, while spindles outside of the South decreased by 800,000, compared with October, 1921. Active spindles numbered 33,859,076, compared with 34,206,179 in October last year.

The quantity of cotton held in consuming establishments October 31 was 1,379,770 bales of lint and 82,169 bales of linters, compared with 1,398,138 bales of lint and 157,877 bales of linters a year ago. In public storage and at compresses 4,329,902 bales of lint and 16,812 bales of linters, compared with 4,984,831 bales of lint and 212,887 bales of linters October 31, 1921.

### A JUST CRITICISM.

Johnson City, Tenn., November 10.

Editor *Manufacturers Record*:

The conditions that we have had for the last three years come almost entirely from the mismanagement of those 12 Reserve banks, as I pointed out in my letters as published by your fine journal of November 9.

Those conditions very largely have caused the changes in the elections all over this nation, and if those banks continue to be mismanaged they should be abolished, and the gold that is hoarded in them distributed to their member banks and loaned by them.

Properly managed, those banks could have eliminated any conditions that brought about such financial ruin to all lines and kinds of business. Their policy was the reverse of what it should have been, as is well known by every business man of any capacity whatever.

JAS. A. MARTIN.

### THE FIGHT OF FREE TRADERS AGAINST PROTECTION.

THE New York Journal of Commerce quotes Mr. Frederick B. Shipley, Secretary of the Textile Committee of the Fair Tariff League, as saying that the League "equipped directly 375 spellbinders with samples and data of textiles for various speakers' committees throughout the country. This was looked upon as a starter only, as the League was handicapped by reason of the many shifts in rates while the bill was before the Senate." He added: "The League proposes to go right on with its fight against the present tariff."

The Fair Tariff League apparently is a scheme of the im-

porters for the purpose of trying to break down an adequate protective tariff to save this country from being flooded with the products of other countries, made by labor receiving from one-half to one-fourth, and even less, of the wages paid in this country.

The American people as a whole are, we believe, in favor of protection, and the Fordney-Macomber Bill is already yielding a far greater income to the Government than had been anticipated. Instead of destroying the import trade as the free traders and the fair tariff leaguers had been claiming, imports are running high and the Government is getting a much-needed revenue.

### UNANIMOUS DECISION OF UNITED STATES SUPREME COURT AND SIMILAR DECISIONS OF THREE FEDERAL COURTS.

MR. CHARLES DE B. CLAIBORNE, vice-president of the Whitney-Central National Bank of New Orleans, and Chairman of the Committee on Exchange of the American Bankers' Association, in writing the *MANUFACTURERS RECORD* regarding the decision by Judge Cochran, recently published by us, granting a permanent injunction against the Federal Reserve Bank of Cleveland, Ohio, and in favor of the Farmers & Merchants Bank of Catlettsburg, Ky., says:

"The testimony produced discloses the same scandalous conditions which we find in other cases. How long the Federal Reserve System can be found guilty of such conditions, and yet survive, it is difficult to say. Never before in the history of this country has a government agency been found guilty of wrongful acts by three separate courts, including a unanimous decision of the Supreme Court of the United States."

Despite the decisions of the Federal courts against the bulldozing methods of Federal Reserve Banks in trying to force their par clearance methods or else break state banks, these banks keep on in their tactics which are destined, if not changed, to bring about a spirit of hostility to the whole Federal Reserve System which will endanger its existence.

Their methods are again illustrated in a letter from Mr. H. F. Stanley of the Stanley Lumber Company, West Jackson, Miss., in which he says:

"The enclosed letter and reply endorsed on its face, tell their own story pretty well. The writer sent his mother in Eagle Rock, Cal., a check which she deposited, but the check was returned to her bank by the Memphis Branch of the Federal Reserve Bank with a slip stating 'Refer to par list.' The bank where my mother had deposited the check thereupon charged her account with the amount of the check and she sent it back to the writer. Knowing how interested you are in seeing that the small state banks are not unduly coerced by the Federal Reserve banks and the large central banks, the writer has taken the liberty of calling this instance to your attention."

Attached to this letter is a memorandum address by Mr. Stanley to Mr. Barr, cashier of the bank, and Mr. Barr's comment. They are as follows:

"Note enclosed check with slip attached from Memphis Branch of Federal Reserve Bank, 'Refer to par list.' My mother writes that the check was charged back to her account a few days ago, although there is no evidence that it was ever presented to your bank for collection and we can see nothing the matter with it. Very likely you can explain to me what caused the Memphis Branch of the Federal Reserve Bank to refuse to collect the check."

Thanking you for reply with return of check, I am,

H. F. STANLEY.

"Mr. Stanley. I do not know why this check was returned endorsed as it was. It was never presented to us at all for it would have been paid if it had been. The Federal Reserve banks are prone to use coercive methods on small country banks, and I suppose that is the reason. We are enclosing New Orleans exchange for the two checks, amounting to \$30.

H. B. BARR, Cashier."

How long, we wonder, will the Federal Reserve management endanger its own existence by its tactics of seeking to force against the decisions of the courts its par clearance methods?



## PRESIDENT MARKHAM OF ILLINOIS CENTRAL DISCUSSES TRANSPORTATION SHORTAGE.

PRESIDENT CHARLES H. MARKHAM, of the Illinois Central Railroad Co., in his address at the annual dinner of the Railway Business Association at New York on November 9 gave a review of the railroad problem which was rational, instructive and conclusive. His merited criticism of the mistaken regulation of transportation lines is all the more to be regarded because he declared himself to be in favor of their supervision on behalf of the public. Summing up a consideration of conditions in the South and the West he said after a casual reference to the general change for the better in business conditions: \*

"At the very threshold of this new era, however, we are confronted with a shortage of railroad transportation. The farmers have produced bumper crops. The railways have moved more grain than ever before in history. Nevertheless, the farmers complain that, although their big corn crop has not all been harvested, they cannot get enough cars for even the grain that is ready for shipment. Lumber manufacturers find themselves unable to ship the lumber they have produced and for which there is a demand. The coal mine operators cannot get anywhere near as many cars as they order. Manufacturers of iron and steel show that their output is being restricted because the railways cannot deliver them enough fuel and raw materials. Road building and other construction concerns complain that their business is interfered with by the priority in the use of open top cars being given to coal under an order of the Interstate Commerce Commission. Growers of fruit and vegetables say they are suffering large losses because they cannot get enough refrigerator cars.

"The railways are now moving about as much freight weekly as in 1920, when the highest record was made. In spite of this the car shortage recently reported has been the largest ever known, and the demands of shippers continue to increase.

"Julius H. Barnes, president of the Chamber of Commerce of the United States, was head of the government's grain corporation during the war and has been in the grain exporting business for thirty years. In a recent address \* \* \* he attributed the inadequacy of transportation to 'an over-rigid system of government regulation over our railroads, which has extended over ten or twelve years'."

Remarking that "It would be a serious mistake to assume that the strikes have caused the present shortage of transportation and that it will disappear when their effects have been removed," Mr. Markham continued thus:

"What is it that has caused this great and menacing decline in railroad development? What must be done to revive their expansion? From time to time it is suggested that regulation should be abolished and the managements of the railroads given the same freedom of action as those of other concerns. I believe the railroads, because of their character and fundamental importance to all other business, should be operated under the supervision of agencies controlled by the public. But while I am a firm believer in the principle of regulation, I also believe that government regulation as it has been practiced for fifteen years is almost wholly responsible for the decline of railroad development and for the existing shortage of transportation. \* \* \*

"Clearly it is essential to the welfare of the country that the railways should as rapidly as practicable put their existing facilities in good condition, and that they should for some years rapidly improve and expand their properties. What is necessary to insure that this will be done? Those charged with the responsibility of managing railways can make but one answer:

"The one thing, and the only thing, which ever will enable

and cause the railways to carry out a sufficient program of expansion will be to let them earn sufficient net return to raise the new capital required for that purpose."

"With respect to the valuation law and the rate-making provisions of the Transportation Act," said Mr. Markham, "there seems real danger that they will be changed for the worse unless the public can be given a better understanding of the railroad situation, and of what must be done to improve it, if it is not to be allowed to restrict the growth of production and commerce until it brings a great disaster upon the nation."

Then as to allegations made by labor and political leaders that the railroads have been grossly over-valued Mr. Markham said that the Interstate Commerce Commission, after eight years' work, found that the value of the railways as a whole, while less than the investment shown by their books, is more than \$2,000,000,000 greater than the amount of their securities actually outstanding in the hands of the public; that the Commission is composed of eleven men, who have been appointed by three different presidents from nine different states; that only one of them was ever a railway officer, and five of them have been members of state commissions. "Nothing," continued he, "could be more unreasonable than to assume that such men would be disposed unduly to favor the railways, or that after their years of study of the problem they would be less able to make an intelligent valuation than politicians and labor leaders who have no responsibility for the results of railway regulations and who seek to promote their own selfish interests by carrying on propaganda against the railways. \* \* \*

"The attack is directed chiefly against the rate-making provisions of the Esch-Cummins Act. The most important of these provisions now in effect is that which directs the Interstate Commerce Commission in fixing rates to consider the need of the country for adequate transportation. Therefore, the principal thing Congress would do by repealing the rate making provisions would be to say in effect to the Commission that it should not in future consider the need of the country for adequate transportation."

## GERMANY'S DEVELOPMENT OF ITS WATERWAYS.

GIVING in detail the amazing plans which Germany has under way for the development of its waterway systems, Messrs. Samuel Montagu & Company of London, quoting from the *Revue des deux Mondes*, say:

"This great system of canalization of canals and of waterways will lead to, and is designed to isolate Switzerland from France and Belgium, and to bar the way to any chance of Franco-Belgian fluvial penetration. It aims at putting a check upon Antwerp and delivering a terrible blow at Strasburg, now that it is French. The third part of the proposal is neither less original, less bold, nor the least disturbing. Regardless of the treaties which have redrawn the map of Europe and considering all the lands between the Balkans and the Danube as German territory, the engineers of the public works have visioned a formidable network of waterways directly uniting the Nieman with the Danube, through Poland and Czecho-Slovakia. The economic isolation of France and Belgium, the maritime isolation of Great Britain, the inveigling of American commerce by employing the New York-Orcades-Mer of North Hamburg, the servitude of Switzerland, of Poland, of Czecho-Slovakia, of Austria and the Balkans, the construction of a Germany capable of controlling Central and Eastern Europe to the exclusion of every other power, these are the results to which tend the gigantic works undertaken by the Reich to develop her internal navigation at a cost of thousands of millions, coupled with the skill of her highly trained engineers."

And yet Germany with its cowardly effort to prevent the payment of the Reparation Bill, can spend billions for internal improvements! No wonder the confidence of the world in the good faith of Germany steadily decreases!

## RADICAL LABOR UNIONS' DEFIANCE OF LAW AND GOVERNMENT.

**M**R. ALEXANDER L. SMITH, an architect and builder of New Orleans, paints in its true colors in a letter to the *MANUFACTURERS RECORD* the fearful crime committed at Herrin, Ill., under the influence of radically led union labor. He points to the lesson which it should teach to the people of this country as to the danger of unionism in its definite defiance of laws and the Constitution of the country.

Since Mr. Smith's letter was written the country has breathed more freely because of the action of the grand jury in indicting many of the murderers at Herrin, and of the action of Judge Wilkerson of Chicago in his severe, but truthful arraignment of the railroad unions which have created, as he says, a veritable reign of terror in some sections; or if the unions collectively have not done this, individual union men have done it, and as yet the labor unions of the country have not denounced the crimes done at Herrin or the crimes of railroad men.

In his letter, written some weeks ago, Mr. Smith pointed to a condition which demands the serious consideration of every lover of liberty, and of every one who regards with any degree of concern the future of this country. The letter follows:

*Editor Manufacturers Record:*

My earnest request is that you grant me the high privilege of tendering to you my deepest gratitude, for you are deserving of the highest commendation, the most earnest congratulation, and the most respectful admiration for the decisive attitude you have taken in reference to the massacre at Herrin—Bolshevism's challenge to organized government.

As you so well know, neither government nor civilization can in any degree withstand the ever increasing encroachments, usurpations, abuses and destructions of the prince, that arch demon of darkness—namely organized labor, and unless there comes to civilization rescue and defense, such champions and defenders possessed of that knowledge and comprehension of events together with a great and reverent sense of duty, and unalterable courage of conviction, that has so notably characterized your activities in the discharge of your duties of citizenship—unless such men shall cause the craven cowards in office to become true to their trust and oath of office in the strict and full enforcement of the law, the days of civilization are numbered, and the number is small.

The domicile of international Bolshevism shall be transferred from Russia to the United States, the thefts, destruction to property, the wholesale executions, the destruction of every religious and educational organization, the destruction of the machinery of production and distribution, the complete cessation from normal activities, the waste and destruction of stored wealth, the consequent starvation and disease, visited upon the few who may escape the red hand of murder, all will be as the ghastly deeds that have wrought ruin and complete destruction upon the Russian nation, multiplied by ten thousand.

We may ease our consciences, and flatter ourselves that the tragic event at Herrin is not consistent with labor unionism, that it rather is Bolshevism. This may be the defense of organized labor; however, notwithstanding, this act is the most vicious and unimpeachable witness that has yet testified against organized labor, nor is it an accident due to any variety of circumstances. It is but the inevitable and logical resultant of labor organization.

To concede that labor is organized primarily for the exercise and recipiency of justice, would be not less than an admission of one's lack of power of analysis. That it may have other functions than the primary one, we are not at all concerned, for this is no time to speculate in anticipations. It has been said "Ye shall know a tree by its fruit", and it has borne but one kind of fruit. Its fundamental object and purpose is to entrench itself in the greatest position of power, that it may exert that power to completely dominate every situation that it may find itself in, or aspire to.

It is sufficiently nurtured to bear fruit. It has borne fruit. But a short time ago, it enjoyed a bountiful harvest at Herrin. It was so exultant over the fullness thereof, that the event was commemorated a few days later by a great festival,

and made gayer still, by the participation of law officials together with a jazz brass band.

But all this is only an incident, for the history of organized labor is replete with denials of responsibility, with disrespect and contempt for Constitutional law, for organized government. It knows nothing of the most simple or elementary responsibilities of citizenship.

Thus, theft, intimidation, arson, conspiracy, treason, rebellion, murder and every foul deed in the blood-stained catalogue of crime, is but the inevitable and logical result of that organization that can give power without the restraining, balancing, governing influence of responsibility. These acts of lawlessness and terrorism are not sired by Bolshevism. Organized labor is both sire and dame. Bolshevism is the natural and legitimate offspring. Organized labor represents in concrete form the desire for unlimited and unrestrained power, unbridled license in the commission of murder and devastation. Bolshevism represents that power in action. Hence organized labor the cause, Bolshevism the effect, and therefore logical and to be expected.

The nativity of this power in action in the United States is Herrin's chief distinction. Dreadful as was this massacre, unparalleled in the annals of this nation's history, equaled only by the demon-like bloodthirsty Turk, or those incarnate fiends who destroyed the Russian nation; terrible, monstrous as was the wholesale murdering of men because they dared to exercise a most fundamental Constitutional right, in committing themselves to honorable useful and necessary labor, because of their subservience to that Divine injunction "Six days shalt thou labor," because of their obedience to the most fundamental law of nature, namely, the law of self determination, that even their wives and children might be honorably fed, sheltered, and clothed, rather than become the recipient of precarious charity, and a blight and burden to the State; ghastly as it was, that the earth upon which Herrin is builded should open up and drink so freely of human gore, though the unfortunate victims were not merely assassinated but were most savagely tortured to death—notwithstanding all this, deep down in the black abyss of crime this is of small consequence as compared to the insolence of this challenge to organized government.

Nor is the magnitude of this crime as great and as portentous as is the crime of those constituted authorities of the law who failed in their duties both before and after the act. The law abiding people of the United States must clearly understand that these officials of the law are accessorial, and in addition to such guilt they are further guilty of the violation and prostitution of their oath of office, and power should be exerted to impeach or send them to the penitentiary according to their guilt, and to hunt down and mete out to every assassin, punishment commensurate with the crime perpetrated, and until such is done the American flag in Illinois, shall drop, and shrink, and shudder, and in ignominious shame seek a hiding place. For in victory, in triumph, in defiance, the red flag of Bolshevism waves over what once was the Commonwealth of Illinois.

Again thanking you for the glorious service you are rendering our country, and with greatest and most ardent wishes for your great success, I beg to remain,

A. L. SMITH.

Since Mr. Smith's letter was written Illinois has partly redeemed itself by the grand jury, indictment of many of these Herrin rioters as murderers. It now remains to be seen if they will be convicted.

In harmony with the views expressed by Mr. Smith is a letter from a woman teacher living in the coal regions of Kentucky, in the course of which she says:

"Your last copy is so full of unanswerable truths to those putting 'right' before self-righteousness, that I am sending under separate cover two copies of the *Miners Journal* which were mailed to me as 'a brag' and a clamor of union miners that all they do is loyal, exactly right,—and holy—if you belong to the union. And everything mean, diabolical, and to blame for the murders, atrocities, if you are not 'union' If you are not a union slave to be dictated to, bossed, and 'charged' by the over-lords in office, you are a criminal.

"I was calling on a Sunday School pupil whose father came out and blessed-out all the church here, our President, Judge Gary, everything but the labor union. Because, I as a Christian patriot, defended law, the Constitution, etc., he became irate—and I suppose mailed these journals. Not a word of gratitude to God for our great Republic, but hate, animus, and deliberate refusal of all else but to dictate and to spite every soul who refuses to be or to become 'a bond-servant,' tied hand and foot, and pocket-book, to 'over-lords' whose sole duty is to stir up strife and get paid therefore!"

# A Banker's View of Vital Financial Questions.

## HOW TO SAVE THE FEDERAL RESERVE SYSTEM AND INCREASE ITS USEFULNESS.

By A. J. FRAME, Chairman of the Board, the Waukesha National Bank, Waukesha, Wis.

You ask for my reasons why so many eligible banks do not join the Federal Reserve System.

The answer seems very simple to my mind. I desire it distinctly understood that I have for more than thirty years pleaded for a central bank of banks, to be sustained at least by the larger banks of the nation, through mobilization of a smaller part than is now demanded of their reserves (the small banks can be more generously served through their regular correspondents) to the end:

First. That calamitous cash suspensions by banks, as in 1873, 1893, 1907 etc. should not occur again.

Second. That any central bank shall be our servant and not our master or monopolizer at any time. They should be measures for relief and not for profit.

Third. That elasticity to our monetary systems may at all times be at hand, through extra currency issues, which will automatically expand and contract, and thus give us relief under stress, like unto a governor to an engine or a great water reservoir to quench threatened conflagrations. Such issues should be so penalized as not to breed over-expansion of credit through profitable rediscounting. Rediscount rates should exceed the open market rate for loans.

In fact, to throw out a profitable lifeline to the over-buoyant, destroys conservative progress. We have had since 1914 lamentable object lessons of this fact from our own experience.

In answering the three points named, permit me to say:

No. 1 has accomplished its great mission as practically all economists expected it would do, even with far smaller reserves for central banks. It has done no more than European central banks, with no coercion as to capital or deposits for reserves, have accomplished under far worse conditions. We cannot find that under any of the world's flags coercive "free remittance of checks" is practiced, except under our flag.

Nos. 2 and 3 should be answered together. May I brief a little history of the preliminaries leading up to the passage of the Federal Reserve Act? I had the honor of being in close touch from before 1900 to the dates of retirement or death of Senators Nelson W. Aldrich of Rhode Island, Wm. B. Allison of Iowa and John C. Spooner of Wisconsin, who were for many years the Sub-Committee of the United States Finance Committee. Senator Aldrich was also chairman of the National Monetary Commission, with whom I also was in close touch during the world investigation on Banking and Currency, even after the publication of the Monetary Commission's Reports. I feel free, therefore, to say that from conferences and correspondence with these men, they were eminently conservative and fully appreciated the necessity for safeguarding the nation from over-expanding either currency or credit. On the other hand, the Banking and Currency Committee of the American Bankers' Association were not dominated by the same spirit, but held to easy methods of inflation through rediscounting and through acceptance by banks generally, thus pyramiding credit on credit, which the great authorities on political economy condemned, even before the days of Adam Smith. Even our own Prof. Wm. G. Sumner of Yale depicted our late debauch with a prophetic vision.

In 1913 the present Federal Reserve Act resulted after many hearings, in which I had the honor of appearing both before the House and the Senate Banking and Currency committees.

I refer with much satisfaction to my Senate hearing on

September 19, 1913, (see Document No. 2639, pages 674 to 738.)

### Reserve Requirements.

First. As the capital requirements from member banks, which now exceed 100 millions, pay us 6 per cent thereon, no serious objections are raised.

Second. As to the Central Reserve City banks of New York, Chicago, and St. Louis, which held under the old law 25 per cent of deposits in cash, the new law compelled but 13 per cent of deposits for reserves. As those banks have since then held but 2 per cent in cash, the remaining 10 per cent or over \$500,000,000 has been loaned to the public. It is, therefore, easy to grasp the reason why these banks warmly support the reserve provisions.

Third. The general reserve city banks did not seriously object to the 10 per cent demanded from them, because it did not materially affect their income.

Fourth. As to the large percentage of deposits demanded by the Federal Reserve Act, without any compensation therefor, I seriously objected to these demands, especially upon country banks for reserves. I succeeded in my own words in so amending the final draft of the act as to reduce by about 100 millions the reserves required from savings deposits, but did not succeed in lowering the 7 per cent demanded on commercial deposits.

Fifth. In my Senate hearing, page 688, I predicted that state banks generally would not join the Reserve System, because of excessive demands upon country banks, coupled with coercive remittance for checks coming through the Federal Reserve banks at par. This prediction seems to be verified.

### Par Collection of Checks.

The par collection of checks has absolutely nothing to do with the true functions of reserve banks to aid banks under stress. As selling exchange for reasonable profit is one of the ordinary functions of banking to enable customers to meet their liabilities for purchases; as the banks have nothing to do with the transactions, the amazing theory that banks must transfer daily hundreds of millions of dollars at material expense of writing letters, drawing drafts, book-keeping, etc., without even getting a postage stamp therefor, regardless of whether the customer's account justifies free remittance, seems to fair minds unjust, un-American, confiscatory and unconstitutional. If it is the law, then it is like many other laws that ought to be repealed instantly. If wholesalers, mail order houses and big banks approve and profit by it, does it not seem that blind selfishness overrides justice? These conditions might be likened to the darkey who stole a pair of pants. He was defended by ex-Chief Justice White. The prosecuting attorney asked the darkey to stand up. The darkey hesitated. White asked why. "You are innocent, aren't you?" Yes, I'm innocent, just as long as my feet am under dis yar table; but good Lor' Jedge, when I stand up, I've got dem pants on!"

Does equity reign when the United States transfers funds through Post Office orders at 25 cents per \$100, and then compels banks to remit at an actual loss to them? The Government might as well compel merchants to sell calico, sugar or peanuts at a loss, or compel barbers to shave gratis, then charge extra for haircuts and shampoos.

Listen to what some authorities at least think. The legislatures of Georgia, Alabama, Mississippi, Louisiana, Oregon, and some others, have passed laws to enable banks to charge reasonably for such services.

In Oregon, because the Brookings State Bank would not



remit without charging 10 cents per \$100, the Federal Reserve Bank at San Francisco sent an agent, who lived at Brookings a year, to collect checks in cash, then sent to it by registered mail. To collect \$162,850 in a year, which the bank would have remitted at \$102.85, cost the Federal Reserve Bank \$35.42.

Judge Wolverton of the United States Circuit Court in Oregon issued an injunction containing these comments:

"The method employed, considering the occasion for it, or rather the lack of reasonable necessity, was, to say the least, extraordinarily extravagant and unbusiness-like; I am persuaded that the act of the defendant bank \* \* \* indicates most convincingly that it was for the purpose of coercing the latter bank into adopting the policy of the Federal Reserve banks to remit at par."

Again, the late decision of Judge Cochran of the United States District Court in Kentucky, in the case of the Farmers & Merchants Bank of Cattlesburg, Ky., vs. the Federal Reserve Bank of Cleveland, Ohio, seems amazing. The court's opinion says in part, that H. A. Magee, traveling representative of the Federal Reserve Bank, visited the Farmers & Merchants Bank to persuade its officers to agree to remit payment for checks free of charge. On refusal, the agent is quoted as saying, "Plaintiff would be mighty glad to sign up before long as no bank could exist that did not; that the Federal Reserve System was like a mighty battleship and all banks that did not affiliate with it could not stand its swells and must get in its wake for safety; and that in the next five years there would be no small banks."

The court further says: "Such a course of procedure is a kind of refined bank hold-up."

Further quotations seem superfluous.

Probably 80 per cent of the banks now remitting at par do so under coercive persuasion.

As national banks remit under duress, are not such undignified acts mortifying to one who loves liberty?

Free remittance of checks has undoubtedly increased "kiting and float" by hundreds of millions of dollars.

I challenge anyone to point to any nation where such oppressions exist.

The arrogant threat that "in the next five years there would be no small banks" should be emphatically answered through our statesmen passing legislation against internal branch banking in state or nation. The thunderous applause that followed the overwhelming vote at the late American Bankers' Association Convention in New York indicated clearly the handwriting on the wall versus monopolistic banking.

Again, as the Reserve banks exchange their untaxed I. O. U.'s for member banks' live interest-bearing securities through rediscounting, is it any wonder they have made gross profits of over 450 millions of dollars in the past few years? Expenses (36 millions in 1921), depreciation, etc., in this period cover, say 100 millions. Some 40 odd millions have gone into real estate and magnificent buildings, which when finished will cost over 70 millions of dollars. Some 2½ millions in two years under the "printing and stationery" head was spent, we think, for useless research statistical work under 45 heads, in competition with the legitimate press.

#### Summary.

The Federal Reserve Banks have paid in capital by Member banks (dividends limited to 6%), say \$100,000,000  
Member banks reserve deposits are, say..... 1,800,000,000  
on which no interest is paid and subject to check only under penalty.

Surplus taken primarily from the people, misnamed for franchise tax purposes, over 200 millions. Mark the fact that in 1914 all banks of the United States had:

Cash on hand, say.....	\$1,640,000,000
These same banks now hold, say.....	1,000,000,000

November 1, 1922, the Federal Reserve banks held some (in cash).....	3,200,000,000
November, 1922, total in all banks.....	\$4,200,000,000
Increase since 1914.....	2,560,000,000

Query. Your journal has lately pleaded for a billion extra currency issues to relieve distress. May we not fairly ask, as serious troubles come upon us only about once in a generation wherein reserve banks services are really needed, and as the Federal Reserve banks now hold over three billions of cash, without compensation therefor, why not return to member banks, say one billion or more cash, and thus broadcast it over the land to help relieve any undue pressure? The Federal Reserve banks will then hold more than is necessary to fulfill any reasonable requirements likely to arise.

If so, why should the Federal Reserve banks, with cash boxes overflowing now, urge 10,000 eligible state banks to join, and thus lock up, say, another billion from public use, instead of amending the law to decrease reserves and thus help mend our troubles?

#### The Cry for More Money Fallacious.

We are impressed that a cry for an increase above present per capita of circulation in the United States is a fallacious one.

Dr. Adam Smith declared the cry of all ages was for "more money." We have an ample quantity of the highest quality now in the United States, and if some sections of our land are short, it seems the cause must be largely a lack of sound collateral caused somewhat by too rapid, forced deflation, which wrecked credit, or too much cash locked up by Federal Reserve banks, all of which should be cured by removing the cause, rather than promote further economic errors.

Dr. Adam Smith, Ricardo, Jevons, our own Prof. Wm. G. Sumner and many other eminent political economists warn us through the voices of history against inflation. The celebrated "Bullion Report of 1810 to the House of Commons" warns us. Hon. Andrew D. White's "Fiat Money Inflation in France" is another example. In our own day, while Russia, Germany and other nations are sweltering in I. O. U. promises to pay, millions are starving to death.

#### Constructive Amendments.

In view of these facts, as war has ceased, may we not fairly offer some constructive amendments to the Federal Reserve Act in the interest of the people at large?

1st. As Federal Reserve banks were not founded for profit, but to relieve distress, then limit their powers so that they shall be our servants and not our masters at any time. Limit the extravagant cost of buildings and general expenses. Cut out branches, as they simply add to the people's burdens.

2nd. Restore a billion at least of the country and secondary city bank reserves to them.

3rd. Repeal the coercive measure of free remittance of checks, as it confiscates vested rights through robbing the country banks for the benefit of larger interests. This function is foreign to the Reserve Act.

4th. Rediscount only at rates above normal, to the end that the destructive results of inflation may be minimized. Is it desirable that, say, ten thousand eligible non-member state banks join the Federal Reserve System, which would add another billion to its cash holdings, while now these banks can spare a billion or more and still be able to cope with any emergency? What we need is a harmonious whole.

As injustice is the mother of warfare, then restore constitutional freedom as vouchsafed to us by Washington, Jefferson, Franklin and others.

We plead that monopoly and oppression, whereunto we are trending, have palsied the world's progress. The paramount question then is, shall we profit by the experience of the past, or get knowledge only when trouble overtakes us?

## The United States Circuit Court's Decision in the American Bank & Trust Co. vs. the Federal Reserve Bank of Atlanta.

In the appeal of the American Bank and Trust Company versus the Federal Reserve Bank of Atlanta from the District Court of the United States for the Northern District of Georgia to the United States Circuit Court of Appeals of the Fifth Circuit, Judges Walker and Bryan, Circuit judges, and Judge Shepherd, District Judge, a decision in favor of the Federal Reserve Bank of Atlanta was rendered.

In this case the unlawful acts of Federal Reserve banks in other districts were not permitted to be used as evidence against the Federal Reserve Bank of Atlanta, whose officials had testified that such methods could not be adopted by that bank.

The decision rendered in this case in no way whatever militates against the decision against the Federal Reserve banks which had committed unlawful acts. It is understood that the case will be appealed to the United States Supreme Court.

The decision as rendered is as follows:

"Except as to a feature of the bill mentioned below, nothing has occurred to require a revision of or departure from the conclusions stated in the opinion delivered by this Court in this case when it was here on a former appeal. American Bank & Trust Co., vs. Federal Reserve Bank of Atlanta, 269 Fed. 4. What was held by the Supreme Court to show the existence of a right to relief under the general prayer for relief was the part of the bill containing allegations to the effect that, in pursuance of the alleged policy of the Federal Reserve Board to bring about the collectibility by banks of bank checks at par, the appellee Reserve Bank and its officers intended to accumulate, until they reach a large amount, checks upon banks of the class to which the appellant banks belong, and then to cause them to be presented for payment in cash over the counter, or by other devices detailed to require payment in cash in such wise as to drive the drawees out of business or force them, if able, to submit to the scheme of making bank checks collectible at par. American Bank & Trust Co. vs. Federal Reserve Bank, 256 U. S. 350.

"The conduct which the Supreme Court decided to be wrongful and subject to be enjoined was the alleged threatened accumulation of checks for the purpose of using them in the manner alleged. It was not decided or intimated that the appellee bank would be guilty of any actionable wrong by merely presenting or causing to be presented bank checks held by it to the drawees for payment in cash over the counter. The alleged accumulation of checks for the purpose charged was an essential feature of the alleged conduct which was decided to be wrongful.

"We are not of opinion that a bank in receipt for collection of checks on other banks is guilty of an abuse of its right as such holder when, in due course, with reasonable promptness, without designed delay or accumulation, and in proper manner, it presents, or causes to be presented, those checks to the drawees for payment in cash. In so doing the collecting bank would be exercising its right as the holder of checks received by it for collection, and would not be guilty of an abuse of that right for an unlawful purpose. If the holder of the checks is guilty of no wrong the fact that the payee is inconvenienced by having to pay in cash would not give the latter a valid ground of complaint. Inconvenience resulting to one party from another's exercise of a right in a lawful way does not give the former a right of action. The most that the evidence relied on by the appellants tended to prove was that at and prior to the time of filing the bill the appellee bank intended or proposed to deal in the just stated manner with checks received by it for collection, when the drawee did not consent to remit at par, and that it was after this suit was brought that appellee bank manifested its willingness to allow payment of such checks to be made either in cash or in acceptable exchange.

"The trial judge specifically found that 'the charge that the Federal Reserve Bank at Atlanta would accumulate checks upon country or non-member banks until they reach a large amount, and then cause them to be presented for payment over the counter, so as to compel the plaintiffs to maintain so much cash in their vaults as to drive them out of business, or an alternative agreement to remit at par, is not sustained by the evidence. He further found the evidence insufficient to sustain any charge in the bill that the Federal

Reserve Bank was acting illegally or exercising any right it had so as to oppress or injure the plaintiff banks.'

"The record before us does not warrant the setting aside of either of those findings. We do not think that the evidence adduced justified the granting of any of the prayed for relief which was denied by the decree appealed from. By that decree the appellee Bank was 'enjoined and restrained from publishing, upon any par list issued by the said defendant, The Federal Reserve Bank of Atlanta, the name of any non-member bank being a plaintiff in this case unless such non-member bank consents or has consented to remit at par.'

"Our attention has been called to an opinion rendered, after this case was argued and submitted, upon the granting of a preliminary injunction in the case of Farmers and Merchants Bank of Catlettsburg, Ky., vs. The Federal Reserve Bank of Cleveland, Ohio, and Mary B. McCall, pending in the District Court of the United States for the Eastern District of Kentucky. That opinion shows that the granting of a preliminary injunction in that case was influenced by the showing made that the defendant bank, by its authorized agents, adopted what well might be deemed to be unwarranted methods in collecting checks on the plaintiff bank. That case is plainly differentiated from the instant one by the above quoted explicit finding in the latter to the effect that the evidence did not sustain any charge in the bill as to improper conduct by the appellee bank or its agents. We do not think that that opinion shows that our above indicated conclusions in the instant case are incorrect.

"In the absence of any showing that the appellee bank consented to or approved of the use of any unlawful means of enforcing or promoting the adoption or carrying out of the policy or plan of making bank checks collectible at par, the fact that the appellee bank was in accord with other Federal Reserve banks in adopting that policy and attempting to bring about the general acceptance and adoption of it cannot properly be given the effect of making the appellee bank responsible for unlawful acts done, in the effort to enforce that policy, by or at the instance of other Federal Reserve banks. An express or implied agreement between the several Reserve banks to promote the adoption of the policy mentioned does not import a common consent to the use by any party to such agreement of unlawful means to effectuate the common lawful purpose. Assent by one party to concert of action with others to accomplish a lawful purpose does not involve or amount to the former consenting to or approving the unlawful conduct of any one. There was no evidence tending to prove that the appellee bank authorized, consented to or ratified the use by or in behalf of other Reserve banks of illegally coercive methods to bring about the general adoption of the above mentioned policy. It follows that the evidence offered to prove the use by or in behalf of other Reserve banks of unlawful means to accomplish the alleged common purpose was properly excluded.

"The court disallowed a proposed amendment of the bill having the effect of adding as parties plaintiffs thereto banks located in Federal Reserve districts other than the Sixth. That ruling was not erroneous. The complaints made by the bill are based upon what it alleged the appellees did or propose to do in transactions between the appellee Federal Reserve Bank of the Sixth Federal Reserve District and the appellant banks, which are located in that District. The banks unsuccessfully sought to be added as parties plaintiff are so far strangers to the transactions mentioned as to keep the alleged conduct complained of from giving to those banks a right of action based on that conduct, with the result that those banks are not entitled to be joined as parties plaintiff in this suit.

"The same interrogatories were propounded by the appellants to several of the appellees. A separate answer was made to each of those interrogatories, each person interrogated making such answer his own. The court overruled objections to such answers on the ground that answers so made to interrogatories were violative of the provision of Equity Rule 58 that 'each interrogatory shall be answered separately.' What the quoted provision forbids is the making of one answer a response to more than one interrogatory. It does not forbid several persons to whom an interrogatory is propounded joining in the making of one separate answer thereto. The provision does not require the duplication or multiplication of answers to an interrogatory when the parties interrogated desire to make the same answer thereto. The answers made to interrogatories were not subject to objection on the ground mentioned.

"The conclusion is that the record does not show any reversible error. The decree is affirmed."

## \$2,000,000 BROWN HOTEL AT LOUISVILLE.



Fifteen-story structure to be erected at Louisville, Ky., for J. Graham Brown at cost of \$2,000,000; 140x191 ft.; 600 rooms with bath; colonial type; ell shape above third floor; matt-faced brick and stone trim; Preston J. Bradshaw, Archt., St. Louis.

## New Orleans to Establish Park 5 Miles Long—Estimated Cost \$3,500,000.

New Orleans, La., November 16—[Special.]—A public park 1000 feet wide and 5 miles long, with bathing beaches, pavilions, etc. will be created on the Ponchartrain lake front, between West End and Seabrook, by the Levee Board, work to begin early next year.

A concrete containing wall 1500 feet long will be constructed in the lake, parallel to the shore line, and into this area sand and dirt from the bottom of the lake will be pumped, raising the surface of the land about 5 feet between the wall and the levee which guards the city.

It is planned to reclaim 48,476,713 square feet of land, of which 26,000,000 square feet will be devoted to public use, and the remainder sold to home builders at a minimum price of 30 cents a square foot. The sale of the land, it is said, will pay for the establishment of the park, which is estimated to cost \$3,500,000.

## Texas Sulphur Company Reorganizes—To Resume Mining Operations.

Orla., Tex., November 15—At a recent meeting of the stockholders of the Texas Sulphur Co. at Orange, the following officers were elected. Charles F. Suderman, Galveston, President; J. T. McGill, Beaumont, Secretary; Dr. L. Cox, Beaumont, Treasurer.

Plans are being considered for the resumption of mining operations near Orla, where the company owns a deposit of sulphur with surface outcroppings covering several hundred acres.

In one week recently the J. B. McCrary Engineering Corp., of Atlanta, Ga., closed seven contracts for engineering and construction work in Louisiana, Florida, Georgia, Alabama and North Carolina. The largest project was a \$140,000 water, light and sewer system for Marshville, N. C. Waynesboro, Ga., has engaged the McCrary firm as engineers for a \$100,000 paving program.

## Lignite Mining in Central Texas.

Rockdale, Tex., November 17—[Special.]—All the lignite mines in Central Texas have been in full operation this year, notwithstanding the low price of crude oil, which is lignite's natural competitor. Having been purchased by the Southwestern Securities Corporation, a subsidiary of the McAlester Coal Company of McAlester, Okla., the mine plant on the 1400 acres of proved land formerly owned by the Federal Fuel Company, is now being put in thorough repair for early resumption of operations. The old plant is being rebuilt and 10,000 cross-ties will be used in reconstruction of six miles of railroad track connecting the mines with the San Antonio & Aransas Pass Railroad.

A new mine has been opened and is in regular operation at Hicks Station by the Sparks Coal Company, having 700 acres of proved lignite territory.

The production veins of lignite lie below the surface from 25 to 150 feet, and in thickness the veins run from 6 to 18 and 20 feet. The plant of the Southwestern Securities Corporation is about seven miles southwest of Rockdale. There is much other rich lignite land in this section aside from that under control by the various operating companies.

## Large Coal Output in Elkhorn Field.

Whitesburg, Ky., November 18—[Special.]—The Louisville & Nashville Railroad is adding much new equipment to its important line in the Elkhorn-Hazard coal fields of Eastern Kentucky, and there is steady improvement in mine operations. Coal production has made a splendid gain. The road is adding twenty-five new gondola cars a day, these being furnished by The Cambria Steel Co., Cambria, Pa., on an order placed last spring. It is also announced that some new locomotives will soon arrive.

The Louisville & Nashville is also picking up hundreds of old gondola cars which have been sitting idle out on other roads, and this will give more relief to the shortage of coal cars.

More coal has been loaded in the Elkhorn-Hazard fields to this date, this month, than was loaded during the whole of October and it is expected that steady improvement will continue until production reaches highwater mark in Eastern Kentucky's important new coal fields.

## \$1,000,000 Office Building for St. Louis—12 Stories.

St. Louis, Mo., November 17—An office building to be financed by the Mercantile Trust Co. will be erected by the Famous Players-Missouri Corp., Nathan Frank, President, and construction contract has been awarded to the Black Masonry & Contracting Co. The structure will cost \$1,000,000 and will be 12 stories high. It will be especially equipped for the use of physicians and surgeons and will have a hospital on the top floor where minor operations may be performed.

Helfensteller, Hirsch & Watson are the architects and construction is expected to begin soon. The exterior of the building will be of white stone and brick.

## Kansas City Awards Contract for \$300,000 School.

Kansas City, Mo., November 17—[Special.]—Rosenthal & Co., of this city, have been awarded general contract by the Board of Education for the erection of a \$300,000 school building of one and two stories. Plans and specifications were prepared by Charles A. Smith and the dimensions are 230 by 250 feet. The structure will be of brick and concrete with terra-cotta trim, concrete floors and foundation, and composition slate and shingle roof.

Contracts have also been awarded to the McKinley Plumbing & Heating Co. for heating and plumbing, Wyandotte Electric Co. for electric lighting, and to the Western Terra Cotta Co. for terra-cotta.



# Huge Project for Reforestation of Its Pine Lands by Great Southern Lumber Company.

TRACT OF 53,000 ACRES COVERED BY CONTRACT WITH LOUISIANA CONSERVATION COMMISSION—REFORESTATION PROJECTS ELSEWHERE—SUGGESTION THAT STATES ACQUIRE CUT-OVER LANDS AND ISSUE LONG-TIME BONDS IN PAYMENT.

Reforestation plans of the Great Southern Lumber Co., very comprehensive in character, are described by President Anson C. Goodyear, Buffalo, in a letter to the MANUFACTURERS RECORD. The important undertaking is outlined by him as follows:

"The 53,000 acres of cut-over land, which this Company has contracted to reforest in co-operation with the Department of Conservation of Louisiana, is very well blocked, and is situated contiguous to Bogalusa and the New Orleans Great Northern Railroad. Some 25 per cent or more of this land is already fairly well restocked, principally with long-leaf seedlings. The remaining portion of it the Company is undertaking to restock by artificial methods, with loblolly and slash pine. The region is not divided by a great many roads, and farming in the community is not extensively carried on. At the same time, there are some farmers living in the community.

"To give the long-leaf seedlings which have already started an opportunity to grow, and to protect them from their worst enemies, hogs and forest fires, the company has adopted the policy of fencing the lands with good hog-proof wire fencing. There are already some 20,000 acres under fence, and probably 5000 to 6000 more will be fenced each year until the major portion of the territory has been covered. This fence costs on an average \$200 per mile.

"In several places on the fenced land, the company has built houses and started small farms. These farms have been turned over to tenants rent free, on the theory that they will act as patrolmen and be a permanent protection to the property, at the same time having an opportunity to grow crops for themselves. At certain times of the year, when fire hazards are great, these tenants are given special work in the department of forestry and are paid for this work.

"Experts in the forest service state that the grazing of cattle, horses and sheep is not detrimental to the growing of another crop of trees, and the company's experience thus far points to the same conclusion. Therefore, gates are placed at convenient places in the fenced area for the farmers living nearby, and they are invited to use these lands for grazing their cattle, which they do. It is found that on the lands where the fire has been kept off three or four seasons, grazing both in winter and summer is much better than where the fire, as is usual without protection, has burned indiscriminately.

"The Great Southern Lumber Company believes that the practice of forestry in the yellow pine region of the South, both by private and public enterprise, has come to stay. The officers of the company are of the opinion that lumbermen ought to take the initiative in showing what can be accomplished by giving the denuded lands a chance to produce again.

"It might be interesting to note that the method of fire prevention adopted is to utilize all the natural barriers, such as small streams, swamps, roads and tram ways. By connecting these, the land under fence is cut into various segments. With reasonable patrol, it has been found that fires can be prevented.

"More than 2000 acres of thoroughly denuded lands have already been planted with both loblolly and long-leaf, with

good promise of success on 50 per cent of the area planted. By taking advantage of the immense seed fall of 1920, great quantities of seed were harvested. Eight hundred acres were fenced and plowed, and seeds planted on the plowed rows in the winter of 1920-21. In the winter of 1921-22 400 acres were planted with small seedlings brought from the natural nursery, and put in rows about ten feet apart, six feet in the drill.

"State and United States foresters made a check the past summer of this artificial work, and they report that it bids fair to be successful.

"A nursery has been started in Bogalusa, and this winter there will be planted some half million seedlings taken from the nursery stock.

"It is proper to state that all this work to bring about reproduction on cut-over lands could not be undertaken from an economic standpoint were it not for the progressive laws recently enacted in Louisiana, making it possible for the owners of denuded acres to enter into a contract with the State covering a period of years fixing a proper value for taxes, provided the owner, under the supervision of the State, will do those things necessary to produce useful timber trees on the land."

In connection with the work of the Great Southern Lumber Company, other reforestation projects are described in a statement issued by the National Lumber Manufacturers Association.

"Following the announcement that owners of redwood timber representing 37 per cent of the entire redwood lumber production of California, have decided to administer their lands on the principle of continuous cutting and regrowing of timber, comes the news that an extensive tract of pine lands in Louisiana is to be commercially conserved for pulp and paper making but not lumber purposes," says the National Lumber Manufacturers Association.

"The Great Southern Land Company (Great Southern Lumber Company) of Bogalusa, La., it is officially announced, has placed 53,000 acres of forest land on a reproduction basis. This is the second large tract Louisiana timber owners have put under the state law designed to encourage reforestation through taxation adjustment. The law provides that if owners of cut-over land will put it under the supervisory forestry control of the state for a period of fifteen to twenty years and undertake systematic reforestation there shall be no increase in the rate of tax assessment during the regrowing period.

"The Urania Company was the first to take advantage of the law, and it has made notable progress already; but the Bogalusa company has been experimenting for some time outside the provisions of the law, with 15,000 acres of cut-over land; and has come to the conclusion that it will be entirely feasible for it to conduct its timber cutting operations and replacements so that the forest products industries at Bogalusa, which now sustain a model city, will flourish indefinitely. The provisions of this law are considered mutually beneficial to the state and to lumber companies—although less attractive to the latter than the statute it superseded. On the part of the state is the assurance that in the future it will have tax-paying lands instead of barrens, that lands not suitable for agriculture will be cropped with trees

and that forest industries requiring only small trees will be continuous. On the side of the land-owner there is the certainty that increasing taxes will not offset the value of the new growth of timber from year to year, and the prospect of being able to continue his industry indefinitely.

"A large proportion of the land area of Louisiana is not adapted to agriculture. The total timbered surface of the state was originally more than 12,000,000 acres, of which 3,840,336 are still in virgin timber. Of the 8,837,676 acres of cut-over land, about 4,000,000 acres of pine land are not considered to be suited to agricultural uses. The area of virgin pine timber is 1,493,495 acres—much of it not suitable for tillage when cleared.

"In view of the wealth derived from its present enormous lumber production, which is second only to that of the state of Washington, and the fact that much of the forest land cannot profitably be put under plow, the people of Louisiana are vitally interested in making their forest lands continuously productive. An enthusiastic advocate of reforestation even predicts that within two or three years all of the cut-over land in the state that cannot be tilled will be put under reforestation in compliance with the forest land taxation law.

"Louisiana still contains about 130,000 acres of virgin cypress, and 1,308,455 acres that have been denuded. Incidentally, the premium that is put on the rapid cutting of this highly prized wood is shown by the fact that it is assessed as high as \$257 an acre, and none lower than \$24. Yet cypress, 'the wood eternal,' is of such slow growth that its replacement is not considered practicable. Moreover, the swamps in which it grows, when drained, become the most fertile agricultural lands in the state.

"The state also has 1,870,443 acres of virgin hardwood besides much hardwood that is scattered through the yellow pine acreage. The hardwood land is usually good for agriculture, so that not much reforestation of it may be expected. The hardwood consists of various species of oak, red gum, tupelo, ash, elm, maple, magnolia, poplar, walnut, hickory, persimmon, dogwood, orange wood, pecan, cedar and cherry. Louisiana will soon become the leading hardwood state of the country.

"Louisiana is not the only state that has perceived the necessity of adjusting the taxation of cut-over lands to the nature of the timber crop if reforestation is to be made practicable, although it does maintain that 'it has the widest and broadest forestry laws of any state.' •

"Alabama exempts reforesting land from all taxation for a period of ten years, if valued at \$5 or less in the cut-over state. \* \* \* Some states have a system of limited taxable valuation. \* \* \* Most, if not all, of the states that have become interested in reforestation, have been disappointed in the results of their supposedly helpful taxation laws, chiefly because they have not been part of a symmetrical code of taxation and public finance, or because they have not been coupled with fire protection. Even when taxation laws are not temporarily burdensome to forest communities and are theoretically attractive to owners of forest land there is as yet disappointingly little response in the way of reforestation. America seems still to be too much engrossed in the vital present for the average individual cut-over forest land owner to project his business calculations a hundred or even thirty or forty years into the future. (While lumbering size for many uses may be attained in some species in thirty to fifty years, it takes from 100 to 150 years to attain the required quality for other lumber purposes.) He is not interested in spending three or four decades or more in growing a crop, even if there is no taxation until the crop is marketed. There is more hope for reforestation among the owners, especially the large owners, of standing forests—such as the Louisiana and California companies already committed to continuous lumbering—who can plan their opera-

tions so as to keep them going while the new growths are maturing.

"It is such conditions as have been here hastily touched on that lead to the belief, even among the most individualistic lumbermen and timber owners, that the renewed forests of the future will be largely in public ownership. It is the recognition of the apparent inevitableness of this outcome that is arousing much interest in the Southern states in proposals that the states purchase cut-over lands not suitable for agriculture at a low valuation and a low rate of interest, giving in payment for them bonds that will not mature until the forests are again productive, when the lands will be worth many times the present price. The state is immortal and decades mean little to it. It is essentially interested in the public welfare, and it can carry on long-time projects in the public interest which provide little or no incentive to the individual."

### St. Louis Bond Issue Details—Total \$88,372,500— City to Vote February 9.

Itemizing the purposes for which the bond issue of \$88,372,000 as noted previously in these columns will be voted on in St. Louis, Mo., on February 9, the Chamber of Commerce wires the MANUFACTURERS RECORD:

"St. Louis bond issue contains 21 items as follows: Establishing, opening and widening streets, \$8,650,000; Union Station plaza, \$2,600,000; paving, repaving and improving streets, \$5,800,000; city-wide electric lighting, \$8,000,000; new courthouse, \$4,000,000; construction and reconstruction of sewers, \$8,000,000; sanitation purposes, \$11,000,000; parks and playgrounds, \$2,500,000, improvement of existing parks and playgrounds, \$1,300,000; aquarium, \$400,000; municipal lighting, heating and mechanical building, \$1,000,000; hospitals and institutions, \$4,500,000; municipal auditorium and community center, \$5,000,000; memorial plaza and building, \$6,000,000; fire department purposes, \$772,500; grade crossings and viaducts, \$1,600,000; south approach to municipal bridge, \$1,500,000; east approach, \$1,500,000; armory, \$1,000,000; public markets, \$1,250,000; water works, \$12,000,000."

### Ten Per Cent Cut in English Cotton Wages.

Manchester, England, October 27.—[Special.]—In accordance with the agreement arrived at last April, all the cotton operatives of Lancashire, numbering about 500,000, will have to submit at the end of this week to a reduction in their wages of 10 per cent on list rates. This will mean a fall on current wages of about 10d in the pound. At the outbreak of war wages were 5 per cent above the lists and, during the war and the trade boom which followed, advances were secured amounting to 215 per cent on list rates. In 1921 there was a reduction of 70 per cent on list rates and last April a drop of 40 per cent, to be followed now by a further fall of 10 per cent on list rates. It must be said that in July, 1919 the 30 per cent advance then obtained was to compensate the operatives for the loss of earnings as a result of the reduction in working hours from 55½ to 48 per week.

It is estimated that the 10 per cent reduction which is about to come into operation will mean a saving to the cotton employers of about £30,000 per week.

### To Erect \$500,000 Apartment Building.

St. Louis, Mo., November 17.—Purchase of a site 115 by 215 feet has been consummated by the Guild Investment Co. which will erect an apartment building to represent an investment of \$500,000.

The building will be of fireproof construction, steel and matt brick with terra-cotta trimmings. Suites will be of 2, 3, and 4 rooms. The Weisels-Gerhardt Real Estate Co. will manage the apartments.

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# The Truth About Silica-Gel--A Revolutionizing Chemical Discovery.

[What will possibly prove one of the most important revolutionary scientific discoveries of this or any other age is Silica-Gel, discovered by two professors of the Johns Hopkins University, and by Mr. Ernest B. Miller of the Davison Chemical Company of this city.]

The possibilities in Silica-Gel seem so great that the discoverers and those who are testing out the process have been almost afraid to tell the public the facts in regard to what they believe to be its potentialities. Herewith, however, we are able to publish the first comprehensive non-scientific article which we believe has been written about Silica-Gel, prepared for the Manufacturers Record by Dr. A. R. L. Dohme, a well known chemist of this city and the head of the house of Sharp & Dohme. Since the discovery was first made, Dr. Dohme has been in close touch with the scientific men who have invented or discovered Silica-Gel, and at our request, has presented, in language easily understood by the layman, a brief account of it.—Editor Manufacturers Record.]

By A. R. L. DOHME, Ph. D., Baltimore, Md.

The name Silica-Gel to the uninitiated and laymen is unpromising and uninteresting. It is a chemical name and a chemical substance. It is, however, a product of Baltimore brains and Baltimore enterprise, and it will sooner or later materially enlarge the name of our dear city upon the world map. It is in my humble opinion, as a trained chemist and practical business man, the greatest chemical discovery made in the past fifty years in chemistry and ranks with the discovery of the Gay Lussac tower, the Perkin discovery of mauvein, the first aniline dye, the electric furnace and its products and synthesis of indigo. It is in fact greater than any of these, because as I will point out it is applicable and will be applied in time to very many leading lines of industry which it will very materially benefit. We are only at the threshold of its utility and possibilities. The process for its commercial production was discovered as the result of war chemistry and particularly as the result of gas mask experiments made in this city to replace charcoal as the absorbent of poisonous gases.

Not having had a hand in this work and in no wise being connected with the company that developed and controls it, what I have to say about it is the opinion of an outsider, proud of his native city and of its achievements.

Activated charcoal is carbon and absorbs gases very freely and fairly completely. It has its limitations and when it is saturated it is difficult and impracticable to use it over again or recover it. There is an element, silicon, which is chemically very similar to carbon but has the great advantage of being permanent and next to the oxygen of the air probably the most widely distributed element upon the earth. Its oxide silica is quartz or sand and it makes up the major part of the rocks of our globe. As sand it possesses little value except for building or for making glass, but when dissolved in soda as silicate of soda and properly treated with acid it forms a gelatinous mass which when dried yields a hard, semi-transparent, chemically inert product, having ultra-microscopic pores of very uniform size. The secret of the power and value of Silica-Gel is due to the fact that it is in colloid form which gives it an enormous internal surface area and in this form is porous and has tremendous absorptive power for gases and liquids. Destructive gases from flues or factories should no longer trouble neighborhoods as to their effect upon vegetation or health, for Silica-Gel may be utilized to prevent the escape of such gases. So strong is the absorptive power of Silica-Gel for gases, that one can inhale through a tube (connected with a lead chamber of a sulphuric acid plant and which is full of the most destructive and poisonous gases) filled with Silica-Gel and not one particle of these gases will be inhaled. If water is allowed to drop upon Silica-Gel it is absorbed so rapidly that much heat is generated and particles of the gel bursts off the mass with much force. When in colloid form Silica-Gel molecules are very large and it is their great size and area, although

still invisible to the eye under the strongest microscope, that give it its great absorptive power. It can be heated to a high enough temperature to drive off all impurities, either liquid or gaseous, which it has absorbed, and when cooled off it will return to its original condition and can be used over and over again indefinitely. In a plant I have seen in operation the same Silica-Gel has been used over and over again for several months. This much enhances its commercial value, because apparatus handling it can thus be made continuous and automatic in its operation.

Silica-Gel has been proven to be of great value in the refining of petroleum, for instead of the many operations now employed, including the use of sulphuric acid, which destroys an appreciable percent of the petroleum distillates in ridding them of their impurities, Silica-Gel by its mere contact under the proper conditions with these petroleum distillates removes practically all its impurities and the end product is a refined distillate to wit: gasoline, kerosene, lubricating oils, waxes, paraffin, etc.

To make this clearer let me describe the refining of petroleum. The crude oil is heated in a series of large, closed vats called primary stills, one adjacent to and standing higher than the other but connected at its bottom with the next lower vat. This is practically an alcohol column still on a large scale. The product distills from the lower one through its upper outlet into the next higher one and the volatile products, of which there are many in petroleum, distill off as vapor and are condensed in part as it passes through a pipe running from its apex into the upper part of the next higher vat. As all the vats are heated this again distills off its contents. The result is that in the last and uppermost vat there has collected a more or less uniform supply of the most volatile constituents and in the first or lowest vat there is continually collecting an increasing percentage of the least volatile constituents. The products as distillates that are finally collected by condensation from the upper vat are collected between 70-80 degrees, or distillate specific gravity, 0.68 to 0.75, etc. These distillates are as yet mixtures of various hydrocarbons or substances and are not pure but contain impurities such as sulphur, etc., and these distillates are then refined. These distillates according to the temperatures are known commercially as crude gasoline, naphtha, kerosene, lubricating oil, paraffin, wax, etc.

These distillates have heretofore been treated with sulphuric acid to get rid of the sulphur and impurities and then separated mechanically from the resulting sludge so produced and then redistilled, and when so redistilled become commercial products under the above names. In this sulphuric acid process the unsaturated hydrocarbons are largely destroyed, for they saturate themselves with sulphuric acid and the percentage of loss of actual product in this way is quite appreciable; besides which the acid is also destroyed and cannot be used over again except through the



installation of expensive and troublesome reclaiming plants.

In the Silica-Gel process of refining, these distillates are brought in contact with finely powdered Silica-Gel by mechanical stirrers and the impurities are absorbed by the gel practically completely, but the process is purely physical and nothing is destroyed. In consequence the refiner gets out practically as much as he starts with. The gel becomes quite dark in color and is mechanically separated by a rotary vacuum filler, from the liquid, being refined. The refined distillate is discharged to a storage tank and is ready for use. The dark gel is activated in the presence of steam and the liquid in its pores with impurities being volatile is distilled off and recovered and the impurities that are not volatile are then burned off at a higher temperature in the presence of air. The gel emerges from activation with practically its original color and its original efficiency restored, and after cooling is conveyed to the starting point and dropped into the original mixer with newly added crude distillate, the process repeating this cycle indefinitely. The cost of this apparatus is less than the cost of equipment and accessories now used and it does not deteriorate as rapidly, as no acid or destructive agent is used. The cost of the operation is also materially less, as it is practically automatic throughout and one man can operate such a plant.

In doing this absorption of the impurities, it does not affect or decompose the unsaturated hydrocarbon content of the petroleum distillate, which is materially reduced by the sulphuric acid treatment and these unsaturated hydrocarbons have been shown to add materially to the value of gasoline for internal combustion engines. Silica-Gel, hence, not only greatly reduces the cost of refining petroleum products but yields as a result better products than is the case by the present methods. Silica-Gel will hence surely revolutionize the refining of petroleum and its products and will yield gasoline, kerosene and lubricating oils that are superior in value to present commercial products. The result will be that automobile and internal combustion engines will become freed of much if not all of the gumming and carbonizing now so general and will furthermore not have the feed lines stopped up by corrosion and sediment. This applies as well to the lubricating oil as to the gasoline.

This is only one of the many uses to which Silica-Gel can be put. It will absorb practically all the moisture out of the air, which has never been done on a commercial scale before; and this is of great value to steel manufacturers, the preservation of grain in elevators or the storage of many articles which need dry air for their preservation. All processes which call for removing moisture and which now use heat and then only remove the moisture partially will find in Silica-Gel a means of improving their yields and results. Silica-Gel is destined to revolutionize refrigeration, as it can reduce temperature continuously at practically very little expense. Silica-Gel also finds application in the sulphuric acid industry in connection with manufacture of acid by the contact process, concentration of  $\text{SO}_2$  gas for use in chamber plants and recovery of nitrous oxides from the exits of Gay Lussac tower.

Time alone has prevented the thorough study of the many uses to which Silica-Gel can be put in industry, for since its discovery some three years ago the great petroleum industry has received practically all the attention and energy of its discoverers—Profs. W. A. Patrick and B. F. Lovelace, of Johns Hopkins University, and Mr. Ernest B. Miller, vice president of the Davison Chemical Company, which company supplied the facilities and funds and much of the practical knowledge to make the discovery valuable and now controls the development and ownership of Silica-Gel.

Like all innovations in all industry, large corporations are slow to believe and make a change. They must be convinced

from all angles that the new process is sound scientifically and practically. From the oil refiners the writer has learned that the Silica-Gel process of refining petroleum products is superior to any existing process and is scientifically sound and successful. What is demanded is a practical verification of continuous operation of a plant on a commercial scale and a checking up of the actual cost of the refining process. This, according to the same authority, has been in process and is in process now at the plant at Curtis Bay of the Davison Chemical Company, Baltimore, Md., which handles about forty barrels of distillate a day, whereas the most economical commercial unit would handle about 5000 barrels a day.

Suffice it to say that, thanks to the genius and energy of these Baltimore people, the industry of the world will direct, as it has in a large measure already directed, its steps to the City of Baltimore and be greatly benefitted by this momentous discovery. Silica-Gel is a glaring example of the value and use of chemical research and chemistry in all industries. An industry of almost any kind that employs processes involving treatment of materials and that is not wholly mechanical that does not employ a research chemist is operating at a disadvantage. The great disadvantage American industry has today compared to foreign industry is the fact that it has been slower than the latter to appreciate the incalculable value of chemical research as an integral and essential element in its successful operation.

### Foreign Nations Should Pay Their Obligations Out of Savings and Not from Annual Income, Is View Expressed.

American loans for Europe came from the capital assets and not from the annual incomes of the nation, and repayment should be made from the same sources, in the opinion of Calvert Townley, senior vice-president of the Federated American Engineering Societies, and vice-president of the Westinghouse Electric & Manufacturing Company.

Secretary Hoover, says Mr. Townley, "hit the nail on the head" in his Toledo speech, "when he characterized Europe's keen desire to escape payment as being 'born of despair' over their present financial condition without any courageous analysis of the future."

Mr. Townley, whose views are set forth in a statement which will appear in the next issue of the "Bulletin", the official organ of the engineering federation, calls attention to a phase of the situation upon which Secretary Hoover did not touch, saying:

"In all discussions I have heard or read, the question of repayments is treated as though funds for that purpose must come from annual income. Many facts have been recited to prove annual incomes insufficient and that even if they were sufficient, such payments would be economically bad, not to say disastrous to the United States.

"The fact is that the United States did not get money to loan Europe from annual incomes. It came from capital assets and I have never yet seen any attempt to show why repayment should not normally and naturally be made from the same sources. The national wealth of even the poorest of the foreign nations is so greatly in excess of the American debts as to make such a method of repayment not only possible but extremely easy.

"If when called upon to furnish the sinews of war to Europe in time of their great stress, the United States had said 'Our income is not sufficient; therefore we cannot raise the needed money by taxation and that is our only resource.' Germany would have won the war.

"America, however, took no such attitude. Our citizens, from the richest to the poorest, contributed from their savings without hesitation or stint and there is now no reason whatever why the foreign nations in turn should not repay from their own savings. They should not make a poor mouth if it cannot be done by taxing annual incomes."

# The Immigration Question—Pro and Con.

## American Civilization Imperilled by Immigration From Southeastern Europe.

Dallas, Texas, October 20.

Editor *Manufacturers Record*:

Enclosed I hand you the editorial, "Another Argument Gone Wrong," from the Saturday Evening Post of October 14. I hope it may be agreeable to you to reprint this editorial.

It should be read and studied by every manufacturer in the United States. Its logic is unassailable, dealing as it does with immigration. The editor is convincing in his argument that every manufacturer in the United States is slowly cutting his own throat by engaging cheap foreign labor the while he is surely undermining "our civic life, our political institutions, and our national unity."

It should be clear to every manufacturer that immigrant labor pitted against native born labor means shelving native labor, for the simple reason that because our types are better, our standards of living higher, our people cannot subsist upon a wage that is acceptable to the immigrant and there follows as a matter of course an overplus of native labor, or unemployment. The masses may not yet perceive the injustice of unrestricted immigration and the menace it carries, but they will, when too late perhaps, realize that immigrant labor has so interwoven itself into our affairs that our own blood is forced back to the degraded level of this scum from Eastern and Southeastern Europe. The day has passed when America should want unneeded foreign labor. It passed when our forefathers, sprung of Nordic stock, organized this republic in 1776 and founded the home for that splendid strain which has upheld civilization and made America distinctly great.

Clamoring for cheaper goods and cheaper wares we have allowed the users of labor to import all manner of human trash, lulled to a sense of security with the thought that the melting pot turns out an American from these drifting refugees of Europe. No greater curse was ever wished upon a virtuous and patriotic people than this same false and farcical theory. The melting pot melts nothing—it only serves to transfuse the sluggish blood of Europe's riff-raff into and through the veins of Americans; it does not improve our type, it only produces a half-breed, and in the lowering of the type the offspring expresses simply a reversion to the lower type. However cruel it may seem in its application, yet Americans shall need to understand it is not cruelty when we think first of our own and whenever labor is needed to employ that already here and not turn it away to become a drug or a drag on our resources. If it were not for the unneeded foreign labor in America there would arise no occasion for strikes and lockouts; the manufacturer in the small town would not have to succumb to the competition of the larger places where obviously foreign labor finds hearty welcome, and the Saturday Evening Post reminds the manufacturer "that the healthy growth of this country depends on the increased prosperity of the smaller towns, manned by natives who have stakes in the towns."

No greater truth could be advanced than that from purely mercenary motives, we are crowding out our own kith and kin to make room for the alien who, multiplying prodigiously will in time swarm over and engulf us, leaving no trace of the once proud and ruling American—gone down, forgotten, even by the hybrid races come here to displace us. The men of America who earn their living by toil are not faced by their equals, they are simply battling for a living against this cheap driftwood from Europe. I am not unmindful of the fact that our immigration has been materially reduced; I would that it were cut off absolutely.

We owe a debt to the unborn of America, just as sacred and righteous an obligation as the one to the living. I have my misgivings when I look upon the undesirables from Eastern and Southeastern Europe, much as I do upon the Mongolian. For centuries these people have lived by intrigue, murder and rapine, until the tradition of the sword and torch has become bred into their bones. It is not easy to contemplate them as capable, through mere verbal processes of naturalization, to become desirable citizens, fitted to assimilate with us and to imbibe our ideals. The blood of race only tells; and the germ plasm never dies.

Loyalty to a constituted form of Government can be a matter of choice and discretion, but patriotism is inborn of the heart.

JOHN SEVIER ALDEHOFF.

The Saturday Evening Post editorial which Mr. Aldehoff asks us to publish is as follows:

### Another Argument Gone Wrong.

[Saturday Evening Post.]

Many manufacturers—in the small towns as well as in the great centers of population, and west of the Mississippi as well as east of it—are addicted to shedding tears over the imaginary handicaps imposed on them by restricted immigration. This is due to the fact that, like most advocates of unlimited immigration, they fail to see beyond the ends of their own noses.

Thanks to the immigration policies formulated by shortsighted legislators, the United States has suffered, among all her other immigrant-induced evils, a most unhealthy growth in the past half century. The great centers have been overloaded with tremendous masses of the world's cheapest labor; while many of the small manufacturing towns west of the Mississippi or out of the line of immigration have stagnated and failed to prosper.

In asking for more immigrants the manufacturers in the latter towns are merely demanding a state of affairs under which they would get one immigrant for every nine that settled down in the great centers. That has been the percentage that they have steadily received and that they would continue to receive.

It seems impossible for these out-of-the-way manufacturers to understand that it is of no earthly benefit to them to get one cheap immigrant or one thousand cheap immigrants or ten thousand of them if at the same time their competitors in the great centers are getting nine to their one, or nine thousand to their one thousand, or ninety thousand to their ten thousand. The manufacturer's condition as to labor without regard to his competitor doesn't count; the only thing that counts is his relative advantage as compared to that of his competitor. If his competitor is getting nine cheap immigrants to his one cheap immigrant the competitor can make him look like thirty pfennigs in German money.

If the protesting manufacturers will take the trouble to remove the lid from immigrant labor and examine its internals with care they will find that immigration has been a welcome asset to industries that have ready access to Ellis Island alumni, inasmuch as these industries can hire immigrant labor freely and cheaply while they are running on full time, and keep this labor on tap without expense to themselves in times of depression. Industries that do not have this access to Ellis Island alumni are therefore handicapped by unfair competition where man power is concerned. If it were not for this competition industries in the smaller centers would naturally grow by drawing their workers from surrounding territory. Because of this competition native American labor can scarcely afford to work for the prices that factories not manned by immigrants must pay in order to compete with immigrant-manned factories. In one New England town almost entirely populated by native stock, for example, there are some industries that compete with similar industries in immigrant-populated cities. The average yearly earnings of the women employed in these industries in the New England town is five hundred dollars; and even so, the industries are barely able to hold their own against the factories that are located in the immigrant centers. In other words, immigration—and the settling of swarms of immigrants in the large centers—has been responsible for curtailing the growth of industries throughout the rest of the

country, and has in countless instances prevented the establishment of other industries in smaller communities.

It should be apparent to every manufacturer outside of the great centers that the healthy growth of this country depends on the increased prosperity of the smaller towns, supported by industries manned by natives who have stakes in the towns. It is only by such a process of decentralization that this country can adhere to American traditions and put the brakes on its steady advance toward centralization in the large cities, with all its attendant evils.

There is no sound argument in favor of any immigration that this country does not actually need; and there are always several unanswerable arguments against admitting to this country any immigrants that are not needed for some specific purpose. Even those whose unsound arguments are inspired by their pocketbooks instead of by their patriotism will have to realize, when they study the matter more closely that the yearly influx of unwanted and unneeded thousands of low-grade aliens will in the end wreck their bank accounts, just as it has already hurt our civic life our political institutions and our national unity.

### **Wants All Immigration Stopped, Which the Manufacturers Record Thinks Is Too Drastic.**

By W. A. JARREL, D. D., LL. D., Dallas, Tex.

To prevent being misunderstood I premise this article by stating that to no one do I yield the claim of deeper love and sympathy for the suffering of other nations who look to immigration to our country for relief. When God saved my soul He begot within my heart the love of Jesus for every one, without regard to color, race or nationality. But for the following reasons, among others, as the result of mature consideration from every angle, I am wholly and irreconcilably opposed to immigration to our country even to the least number of persons:

1. Because we are already are in an almost hopeless condition as a government and people from past immigration. In the editorial on page 49 of your excellent magazine, of November 9, the facts are given which more than support this proposition, as well as the reasoning accompanying them. Yet, these facts are but meagre samples of the facts that thunder against immigration into our beloved country.

2. The very fact that the main strength of Gompers and his troublesome organization to our country is foreigners, and most of them not even "naturalized"—not Americanized enough to have caused them to take the oath of allegiance to our country (although, not mostly coming from hearts that are true American, such oaths would not better the matter, but by giving them more power for evil only make matters worse) should make plain to all who seek laborers that in getting their supply from this source they only saw off the limb they are sitting on. Why? The answer is at hand—by supplying themselves with a lot of soon Gomperte strikers, with all their "Herrin" crimes. Of course, when they are but recently employed, they may be got at less wages; but that state will last only till they are Gompertized, when the Gomperte lawless strikers become the order of the day. And by the way, no true American or true man should be willing to take advantage of these poor, fresh foreigners by paying them starving or inadequate wages. When I see employers harrassed, etc., with strikers from foreigners mostly, I am free to say, I can but feel that these employers are not to be pitied in the least. But for our country I do feel sorely when such troubles take place. Let such employers, if for no other motive, quit trying to flood our beloved land with the immigrant dynamite to our civilization and country.

3. As pointed out in the article just referred to in the MANUFACTURERS RECORD, the "melting pot" does not melt fast enough to save our country. Such sowing is but sowing to the wind to reap to the whirlwind.

4. All the unsettled, not yet reduced to cultivation, part of our country is needed for those who are already here. As it is, we have reached the perplexing problem as to how

the many millions of our children are to be able to purchase land and homes for themselves—immigration having run up the prices of land beyond the reach—or so near so—of the pocket books of those who are starting out for themselves. Almost in sight is the time when an American landowner will be a "Lord."

5. Even in the interest of foreigners, both already here and wanting to come here, immigration to our country is bad and only bad. Why? For the very simple reason that in South America and other countries are lands, fine climate, good or better than many parts of our own—sorely needing immigration. In these lands are almost incomparably better openings for suffering ones across the sea than America can ever offer them. But so long as we offer inducement or even the right to immigrate into our land, their eyes are blinded to their own interests that are before them in uninhabited other great lands. Especially, when so many of their foreign friends are here, they will close their eyes to their own interests and crowd themselves upon us. It cannot be too strongly urged that in allowing them to come among us we are not only destroying our government, hurting our own people, but doing them an incalculable and irreparable injury. They but add to our already overloaded and sinking ship of State.

### **The Solution in Work and Machinery, Not in Immigration.** Ohio Generator Co., Inc.,

Wheeling, W. Va., November 9.

*Editor Manufacturers Record:*

Immigration? Bah! More trash in the garbage can, for garbage we have become.

Where is the fine intelligence that plans the improved machines and mechanical devices which make for greater production without the human hand? Where, I ask you, brothers of mine? I have 17 inventions. Peacock has over a thousand. Others have still more, but how can we work—how maintain our spiritual contact with the Infinite, through an atmosphere of foul, putrid thought and the exhalations of minds filthy with the effluvium of sex and self? God gives us of his boundless treasures and, like the crew of the Jolly Rover, in debauch we squander and waste the oil, the gas, the mineral wealth, in dissipation and indulgence. Where is our stewardship?

I censure myself with the rest. God knows I have squandered time and wealth, but "never again."

Those whose minds run on improved mechanical appliances, get busy and help speed up production! Manufacturers, put a premium on the results of your own employees and give them real credit for new ideas produced. Don't hog the corn!

More immigrants in America? What are men thinking about! Scum of humanity—and in five years they can vote—the sacred privilege denied your son and mine for 21 years; scions of stock which fought, bled and died to make America!

And misguided folk want more of it because it is cheap labor for larger profits to themselves!

No! if any employer wants that kind of labor, let him go where that kind of labor is bred!

Why not the manufacturer take a tip from the "yokel of the field." The modern yokel gees and haws his 60 H. P. oxen—manufactured in Detroit—while he smokes his "Bull" under the shade of a canvas roof; he milks his 30 head of registered beauties with Mr. DeLaval's device, and in Mr. Ford's new toy he "walks" to the corner grocery 50 miles away in the evening for the poke of tobacco and the news, except when Mr. Marconi saves him the time.

Why not let our most respected and revered doctors of finance and industry learn some time that machines are cheaper and better than human labor, more exact, more re-



liable, less apt to have the stomach ache; "and other ills that flesh is heir to?"

Hours of labor? Let's see about it. It was five years ago that I came to this city with \$5, which I used to purchase overalls—two suits. And did I work eight hours per day? Ask Smith, the main gink of the Overland. One week selected at random reads: "Nov. 9, 14 hours; 10, 15½ hours; 11, 16 hours; 12, 20 hours; 13, 15 hours; 14, 14½ hours; 15, 16½ hours; 16, 10½ hours.

For that week Smith paid me \$62.50. There were seven days in that week! Today—I don't "count my millions by the tens," but I'm on my way to the first hundred thousand. Eight hours per day! It is to laugh!

This country of ours; my country! God's paradise! Oh, brother—

For some are made from common clay,  
They could not if they would;  
And some are cast from coarser mud,  
They would not if they could;  
But you, who knowing, feel no fear;  
Aye you, who doing, shed no tear—  
Oh, do the things for which I pray  
And prove your claims of "Finer Clay."

We have absorbed the point of saturation. God save the nation!

E. M. RODEBAUGH, President.

#### A Florida View of the Immigration Question.

Tallahassee, Fla., Nov. 6.

*Editor Manufacturers Record:*

I want to compliment you on your various editorials in recent issues of the RECORD. That one, "Do We Need More Immigrants?" in last week's issue, is on the right track.

But our laws on this subject are all wrong. The first necessity should be to make Americans of all those who seek our shores. My plan is this:

First—Before landing they should be made to "declare their intention" of becoming American citizens.

Second—The use of their home language in this country should be prohibited except where necessary to make themselves understood while learning the new one.

Third—They should be required to report once a year to the clerk of court (either circuit, superior, inferior, or some minor tribunal), and note should be made of their progress in getting Americanized, in the study of our customs, speaking the English language, &c.

Fourth—If at the end of five years they have made no perceptible progress along lines American, then ship them out—deport them as undesirables.

If the above are taken as a basis for constructing an immigration law, then well and good. An alien who has made a study of our laws and customs—with especial reference to the constitution "as she *was* writ" previous to the civil war—will, in nine times out of ten, make a good citizen. If he does not care to do this, then "fire him."

My father always said that in our educational system two things ought to be stressed—the study of the constitution of the United States and of the state in which we live.

T. J. APPLEYARD.

#### Wouldn't Americans Do Work Required if Competition With Low Class Fofeigners Were Eliminated?

National State Association.

Philadelphia, Pa., November 8.

*Editor Manufacturers Record:*

Everyone is interested in the immigration problem.

All thinking people are in favor of some restriction on immigration and the kind of people we should permit to come into this country. It is true that under the present immigration law, from actual figures from the Department

of Labor, more men left the country than came into it last year. Furthermore, our supply of common labor is not sufficient for the normal demand, and American-born people will not take up some of the common-labor classes of work. This is particularly true in the building trades and is responsible at the present time for the excessive wages being paid certain classes of work, thereby creating excessive costs of construction and imposing high rental costs on families and business houses.

In other words, the present immigration law needs to be revamped along the constructive lines suggested by the bill proposed by Senator Sterling and the percentage of immigration permitted should be a net percentage and not a gross percentage, with no regard for the emigration from the country. We are worse off to restrict immigration if emigration is at a more rapid rate, so that citizens or non-citizens who are becoming Americanized are leaving the country to make way for some undesirable aliens.

W. S. HAYS, Secretary.

[We think one fundamental reason why Americans are not now as willing as formerly to do the rougher class of work is because of the presence of the lower class of foreigners with whom native American do not care to compete nor to associate with on a job.—Editor MANUFACTURERS RECORD.]

#### A Harvard Professor Warns the Nation Against Immigration.

Prof. Robert DeC. Ward of Harvard University, in the course of several letters to the MANUFACTURERS RECORD on the immigration question, says:

"I quite agree with everything you say about the strength and activity of the opposition to restriction. For over 25 years I have been working, in such time as I could spare from my professional work, for sane and adequate restriction, and have all that time been a member of the Executive Committee of the Immigration Restriction League. This organization, as you doubtless know, has no axe to grind; is non-partisan and non-sectarian, and has no object other than to try to secure and maintain effective restriction and selection.

"I have known for many years of the firm stand which your excellent and influential journal has always maintained for restriction, and have had occasion more than once to write in commendation of your editorials.

"You are doing splendid public service. I only wish that thousands of others would do even part as much as you are doing. Your stand on restriction cannot fail to impress your readers. There is no question that cheap alien labor is revolutionary. When our manufacturers realize that, they may change their minds regarding letting down the bars.

"Please accept my thanks for the copy of the RECORD containing Gen. Walker's article on immigration and the birth-rate, and your own excellent editorial on the scarcity of labor and immigration. I knew Gen. Walker, and often talked with him about immigration. He had sound views on the subject, and as you point out, what he wrote thirty years ago is as true today as it was when he wrote it.

"I have a feeling that you will be subjected to a rather severe bombardment by the opposition. The fight in the next Congress will be of the hardest which I have seen. The evidence of the strength of the opposition is increasing every day. But, I agree with you in rejoicing that our people are waking up fast, and there are enough of us left who put Patriotism above Pocketbook to make a good fight for what we believe to be for the best interests of our country. You are dead right, and the men who really care for their country will support you through thick and thin, even if they know that restriction means a little less income, but does mean the salvation of the United States.

"Keep up your splendid work. You are in a position to do

great good, and what you say in your columns will always carry weight. We must all stand together, and try to save America from the fate which the big employers will bring her to if they have their way.

"Every success to you in your splendid campaign for the Right."

### Geology of Sulphur Deposits.

By KIRBY THOMAS, New York.

The important sulphur deposits of the Gulf Coastal region of the United States, Louisiana and Texas, are unique in their origin. They are invariably associated with subterranean masses, or "domes," composed mainly of salt and gypsum.

These "domes" undoubtedly have been deposited from chemically charged underground waters which have absorbed salt, lime and sulphur from deep-lying rock strata.

The general geology of the region in which the "domes" are found is simple. A succession of beds of limestone, shale and sandstone, all of sedimentary origin and extending to a depth of at least 12,000 feet, lie overlapping on the elevated interior formations like shingles on a roof, only laid wrong end to. These beds have been faulted, or displaced, by adjustments of the earth's crust, into diagonal blocks of very great magnitude.

The "saline domes" with which the sulphur is associated are found generally at the intersections of these fault planes, where conditions for the escape of the underground waters have been afforded by the natural weakness of the displaced beds at such junction points. The chemical charged waters, heated from pressure, or from the internal heat of the earth, or from chemical reactions, ascend toward the surface at these intersection "chimneys," and as the pressure and heat is lessened or by chemical reaction with the different rocks encountered, they deposit salt and gypsum (sulphate of lime), and sometimes sulphur. These minerals on crystallizing as solids expand greatly and form the so-called "domes," which often lift up the surrounding and overlying rocks and sometimes are forced to the surface.

The native sulphur, or brimstone, is probably due to chemical reaction with the carbon in the deep limestone beds and it generally is found as an irregular cap, or shield, at the top and on the sides of the salt "domes" and under impervious capping of lime and uplifted limestone blocks. These "domes" are often hundreds of acres in extent and extend in depth several thousands of feet. More than fifty "domes" are known but only a few contain commercial deposits of sulphur. Many also contain oil which has seeped from deeper, or surrounding, strata and been impounded under the arched cap of the "domes."

The sulphur is recovered from these "domes" by the Frasch method which consists of using superheated steam introduced through drilled holes through the overlying strata composed of several hundred feet of clay and sand generally. The molten liquid sulphur is pumped by air pressure to the surface and on cooling, forms the remarkable pure brimstone product which has been so extensively yielded by these "dome" deposits in recent years.

The Sicilian (Italy) sulphur deposits and some unimportant deposits in Mexico, in Colorado, Arizona, and Alaska, owe their origin to the cooling of the volcanic fumes in which the sulphur and other minerals have been volatilized by the internal heat of the earth. The sulphur in these deposits is found generally near the surface, mingled with volcanic ashes and scoria and gypsum. It is mined by open pits

and underground workings much as other minerals are, and is refined by various methods to produce the commercial product. The Sicilian deposits, while extensive, are expensive in operation and are important chiefly because of their location and of the government protection given to the industry to insure continued production in competition with the "dome" deposits of the United States.

In numerous localities in the West and in Mexico and South America are found deposits of sulphur formed from the waters of solfataric (chemical) springs. These are utilized in West Texas, Utah, Idaho and Nevada in a small way, chiefly for local markets. The sulphur is found here as native sulphur associated with gypsum and is separated by retorting with superheated steam.

One small deposit in Colorado is due to the alteration of pyrite (iron sulphide) in a mineral formation containing also gold and silver.

### To Erect Modern School Building at Albany, Ala.

Albany, Ala., November 17.—[Special.]—Contract will be awarded about December 19 for the construction of a modern school building here, for which the Board of Education is having plans prepared by W. B. Ittner, of St. Louis.

The building will be 2 stories, with half-basement, and have dimensions of over 800,000 cu. ft. It will be of reinforced concrete construction, with wood, composition and concrete floors and composition shingle roof. A steam heating plant will be installed.

### MEMPHIS HOTEL TO COST \$1,500,000.



Will be erected by Tri-State Hotel Co., at cost of \$1,500,000; 14 stories and basement; 150x100 feet; 35 rooms with bath, shower and running ice water; reinforced concrete and brick; stone trim; tile and composition roof; Jones & Furbringer, Memphis, and Barnett, Haynes & Barnett, St. Louis, Architects.; Gardner & Howe, Hughes Heating Co., steam heating plant; Dawkins Electric Co., electrical work; Hull Plumbing Co., plumbing; Otis Elevator Co., Engrs., Memphis; James Alexander Construction Co., Contractors.; elevators; all Memphis.

## Low Grade Cotton Raised to High.

NEW PROCESS GIVEN COMPREHENSIVE DEMONSTRATION BY INVENTOR AT PLANT IN NEW YORK.

[Special Correspondence Manufacturers Record.]

New York, November 16.

A perfected process for the cleaning of low-grade cottons, raising the grade, and preparing them for the spinner, was demonstrated here this week at the plant of the Wacap Cotton Corporation, 111 Bush Terminal, Brooklyn. Philip C. Wadsworth, inventor of the process, which is protected by eleven basic patents, explained to a large group of engineers and representatives of technical journals, how he could take cotton that graded as low as No. 7 and bring it to No. 1 at a small cost. He said dozens of mill tests had demonstrated that the cleaned No. 1 was superior in tensile strength to a natural No. 1, as the low-grade cotton was cleared of all immature fibers at the same time the dirt, fragments of leaves, and mineral stains were removed from it.

The plant, which has been in operation for some months, is just being put on a commercial basis. Its present capacity is five bales an hour, which will be doubled at once, and the two units run twenty hours a day, giving a daily production of 200 bales. The process, Mr. Wadsworth said, was the result of the expenditure of nearly half a million dollars, and fifteen years of time, during which he had the advice and assistance of many textile and mechanical engineers. He was connected with some of the largest cotton mills in the East as an expert in textiles before he undertook the working out of this process.

The difficulty in the way of the use of low-grade cottons in the past has been that any cleaning process sufficiently capable of cleaning the cotton was also harsh enough to damage the fiber and to reduce seriously its spinning qualities. Chemical bleaches for "blue cottons," stained with mineral matter have the same drawback. The secret of the Wadsworth process is that the cotton to be cleaned is first passed through a series of dehydrators, which remove all except two per cent of its natural moisture. While it is in this dry condition it is cleaned with blowers, and just as it passes into the baler, its moisture is restored by sprayers. The cotton is cleaned easily while warm and dry, and still is restored to its normal humidity at the end of the process.

Specimens of extra long-staple Arizona cotton, for which Mr. Wadsworth paid fifteen cents, and which were sold for 37 cents after the cleaning, were exhibited, and a number of hand-made tests demonstrated the fact that the cleaned cotton has a much greater tensile strength than the dirty. Mr. Wadsworth accounts for this difference by the absence in the cleaned cotton of sharp particles of grit, which sever the delicate fibres and also by removal of immature fibres.

A loss of twelve per cent in weight occurred in cleaning the Arizona cotton, but in spite of this fact Mr. Wadsworth estimated his net profit from the cotton at \$100 a bale. Thus far the plant has worked on low-grades of long staple cotton, which may be greatly enhanced in value by being processed. But Mr. Wadsworth is sure that the process can be applied at a profit to short cotton, as the cost per pound for the cleaning is small, even in the present stage of operation at the small Brooklyn factory. The favored staple at present runs from 1 3-16 inches upward.

The plant has already cleaned and sold to various mills 1500 bales, which have been subjected to severe tests both as to tensile strength and as to the quality of cloth that may be woven from the yarns. Mr. Wadsworth has on file the records of these tests, which show a uniform improvement in the spinning qualities of the cotton treated, and that cotton put through the process bleaches white in the skein

or the cloth without "tendering," or losing any of the strength of its fibers.

An interesting fact about the Wadsworth plan is Mr. Wadsworth's belief that the South is the place for the establishment of his plants. "New Orleans is the ideal site for the first big factory we put in," he said. "We could be in touch there with the long-staple growing regions, and could easily add millions to the value of the Southern crop through improving the grade and value of good cotton which is simply foul with dust and leaves. We could run our plant in connection with the compresses there, so that the cotton could be cleaned, and then compressed for export shipment, or for shipment to Eastern mills by rail or water. I think Memphis and Houston would be good sites for other plants. These are not the only cities where we could operate profitably to ourselves and to the South, but I believe they would be excellent locations."

### Texas Pipe Line Extensions Cost \$1,000,000.

Dallas, Tex., November 16—[Special.]—Extensions of its pipe lines have been made by the Lone Star Gas Company during the last few months at a cost of \$1,000,000, according to R. A. Crawford, vice-president of the company. It is stated that since last winter the company has tied up with eleven new gas producing areas and connected on to more than 100 new producing wells. It has installed or is now installing four new compressor stations. One is at Oil City, Okla., another at Gas City, Okla., a third is in Garvin County and the fourth is at Mineral Wells, Tex. Some of these are already in operation and the others will be soon.

The station at Mineral Wells will supply the towns in Texas south of Fort Worth and Dallas, hence it is said that the addition of these towns to the company's system will not have any effect upon the Oklahoma supply for Fort Worth and Dallas.

The company has built 25 miles of 12-inch line into the Garvin County fields of Oklahoma. It is declared that this alone will assure the delivery of a much larger amount of gas than heretofore.

### Contract for \$219,000 School in New Orleans.

New Orleans, La., November 17—[Special.]—The Orleans Parish School Board has awarded contract to the O. M. Gwin Construction Co. of this city for erection of a grammar school building to cost \$219,000 without equipment. Dimensions of the building are 150 by 300 feet. It will be of steel and concrete construction with a pile and concrete foundation and asbestos built-up roof. E. A. Christy is the architect and T. A. Montz, the engineer.

In addition to the general contract, other awards were to the American Plumbing & Heating Co. for plumbing and heating and to the Union Electric Co. for electric lighting equipment.

### \$150,000 Courthouse and Jail for Dalhart, Tex.

Dalhart, Tex., November 11—[Special.]—Dallam County will erect a building here for a courthouse and jail and is having plans prepared by Smith & Townes of Amarillo for its construction. The building will cover an area of 61 by 95 feet, and will be four stories high of brick and concrete with a concrete foundation and gravel roof. It will be equipped with a steam heating plant.

Bonds in the sum of \$150,000 were voted for the erection of the structure.



# Florida Method of Boll Weevil Control Given in Detail.

CLAIM MADE THAT 90 PER CENT OR OVER OF NORMAL CROP IS ASSURED BY STRIPPING AND BURNING EARLIEST SQUARES AND THEN APPLYING POISON.

That 90 per cent or more of a normal crop may be insured to the Florida grower of upland cotton is the claim made in behalf of the method of boll weevil control worked out by the Agricultural Experiment Station of the University of Florida, according to the preliminary report of Doctor Wilmon Newell, Director of the Station staff. A bulletin on the subject has just been issued, following the brief announcement from the University at Gainesville, Fla., as published in the MANUFACTURERS RECORD of last week. Dr. Newell says for the method that, "on poor soils and good, in fields with fertilizer and those without, the treated fields produced practically as much cotton as if there had been no boll weevils, while untreated fields—usually only a few hundred feet from the treated fields—produced insufficient cotton to pay for seed and cultivation." "While for the present," Dr. Newell continues, "the improved method is actually recommended for Florida only, there appears to be no reason why the method cannot be successfully adapted to conditions existing elsewhere in the cotton belt."

To George D. Smith, entomologist on the Board, formerly with the United States Department of Agriculture, and who has had thirteen years of experience in studying the weevil problem, credit is given for discovering what is stated to have been overlooked by all previous investigators, namely, "the weak point in the weevil's existence and of perceiving how it could be taken advantage of in making a successful attack upon the insect."

In the Bulletin Mr. Smith recites in detail the history of his own and others' efforts to control the boll weevil. Relating the various means employed in these efforts—poison sprays, early fall destruction of cotton stalks, and other hibernating places, etc.—Mr. Smith states that after several years of investigation, the thought occurred that the first weevil generation of the season might be largely disposed of by stripping from the cotton plants the first squares of the season, and with them the eggs deposited by the overwintered weevils.

"Deprived of squares in which to hide and on which to feed, the weevil must necessarily turn to the terminal or growing bud of the plant for food. It is very easy to literally fill this terminal bud with a suitable poison by means of a good dust gun.

"At this time, also, the overwintered weevils have only a few more days to live and their instinct to survive urges them to feed liberally. The application of poison to the terminal buds at this stage has been followed, in all our experiments, by the destruction of practically every weevil that escaped capture in the stripping operation.

"If the stripping is done about June 5 to 8, the number of weevils still remaining in winter quarters and which can still come to the cotton fields is of practically no consequence. These few stragglers cannot increase sufficiently to seriously affect the number of bolls set on the plants in the two months following.

"By clearing the cotton field, early in June, of all the adult weevils and, at the same time, destroying their eggs and larvae, the cotton plants are left free to develop squares and bolls without weevil interference for the succeeding seven or eight weeks.

"Having disposed of the overwintered weevils and their progeny, no additional weevils of any consequence will come to the field before the annual migration, which usually takes place about August 1. Upland (short staple) cotton bolls, which are more than half grown when the summer migration

occurs, succeed in maturing and opening, because the first migratory weevils arriving in the fields late in July turn to the squares and do not attack the green bolls to any great extent."

Data collected at various places throughout a number of years indicates that fully 99 per cent of the weevils are out of their winter quarters and in the cotton fields by June 5. This date is given, therefore, as the earliest at which the control measures can be successfully applied. By taking off the squares formed up to that time it is said to be possible to destroy all weevil eggs and larvae. At the same time, as nearly all weevils are feeding inside of the involucres (shucks) of the squares, it is possible to destroy a large per cent of the adult weevils with the same operation.

"When all squares have been removed, the weevils that were not captured by the stripping operation are forced to feed in the tender bolls of the cotton plants, in the same manner as before the squares developed, and then a single dust application of any suitable arsenical will destroy practically all of them."

It is declared to be important that cotton shall be planted neither too early nor too late, but at such time that it will reach the right fruitage stage for treatment June 5.

Contrary to the belief of many, it is declared that stripping off the early squares is followed by increased growth of the plant and profuse development of new squares. So completely was this fact established, following exhaustive investigation, that stripping of early squares would prove beneficial, it is declared, even if there were no boll weevil infestation.

In gathering the squares a tight, well made sack is used, with a draw-string for keeping the mouth closed. When the squares are placed in the sacks they are taken from the field and burned, care being taken that every square is destroyed and that not a single weevil escapes from the bag. An application of poison, either calcium arsenate or lead arsenate, five to seven pounds to the acre, should be made, immediately following the picking. A hand duster, which forces the poison through the nozzle with a current of air, is recommended. The average cost of treatment, as given in the Bulletin, was \$1.57 an acre.

Much detailed information, together with illustrations, recommendations, directions, etc., are given in the Bulletin, which will be sent free on application to the Experiment Station, Gainesville, Fla. That very wide attention will be attracted to this work is inevitable and the results of experimentation with the method in other sections of the cotton belt will be watched for with keenest interest.

## Huntington Votes \$800,000 School Bonds.

Huntington, W. Va., November 16—Plans for the betterment of Huntington's school facilities will be carried out following the approval of a bond issue for \$800,000 which has been voted. New buildings will be erected and improvements made to existing structures.

## Army and Navy Y. M. C. A. to Cost \$250,000.

El Paso, Tex., November 10—The International Army and Navy Y. M. C. A., James G. McNary, chairman of local committee, is considering a site at El Paso where it will erect a building for the use of soldiers and sailors, transient and resident. The building will be erected at a cost of \$250,000, exclusive of site, which is valued at \$50,000.

## North Carolina Spending Many Millions for New School Buildings and on Road and Street Improvement.

WIDESPREAD ACTIVITY THROUGHOUT THE STATE WHICH IS SETTING A NEW STANDARD OF ENERGY AND PROGRESS—PROSPERITY IS GENERAL.

By CARROLL E. WILLIAMS

Raleigh, N. C., November 18.

Millions of dollars are being expended in new school buildings, state and county structures, municipal improvements, and in the fulfillment of the big general construction program under way here. The great building activity in the capital is typical of conditions in practically every town and city in the state, where many millions are being invested in new roads and streets, sewer and water improvements, municipal buildings, educational institution expansions, business structures, hydro-electric developments, textile mills and industrial plants. As a result of this activity all business is profiting.

A ten story hotel to cost upwards of \$1,000,000 is being erected by the C. V. York Construction Company, Inc., after plans by W. L. Stoddart, of New York and James A. Salter of this city. It is now about 15 per cent complete and work is being pushed with all possible vigor. Among the firms furnishing materials and equipment and acting as sub-contractors are the following: B. MacKenzie, Greensboro, heating; W. F. Waldrop, Rock Hill, S. C., plumbing; McClamrock Co., Greensboro, marble and tile; Davis Reilly, Baltimore, plastering; United States Gypsum Co., Chicago, gypsum partitions; Truscon Steel Co., Youngstown, O., steel, etc.; Raleigh Roofing & Cornice Co., roofing; Thompson Electric Co., Raleigh, electric work; John Askew, Raleigh, painting; and Pittsburgh Plate Glass Co., glass.

C. V. York Construction Co., Inc., also are building the Thompson Elementary School costing \$150,000; a graded school to cost \$175,000 at Winston-Salem, contract for which has just been received. A high school at Thomasville costing \$200,000 is 40 per cent complete. A dormitory at the Agricultural and Engineering College will cost \$200,000 while the agricultural extension building there will involve an expenditure of \$200,000 and it is now practically ready for use. The York company has work in hand sufficient almost to run it at the present rate of operations through the whole of 1923.

G. Lloyd Preacher & Co., architects of Augusta, Ga., have prepared plans for an eight to ten story office building to be erected by the Odd Fellows of this city at a cost of \$350,000. W. F. Evans is chairman of the committee raising the funds for the structure; the required amount is now about subscribed.

The Raleigh Granite Co. with paving operations in Virginia, and in North and South Carolina is making good progress with its contracts and is running several quarries at capacity. These produce paving blocks of granite, curb, dimension stone, and crushed stone. Work is in sight already for capacity production in 1923, and new business is being booked regularly.

P. R. Ashby, engineer and contractor of Raleigh, has under way paving work to cost \$1,000,000. It includes, Project 291, a 16 foot wide asphalt road, 8 miles long from Wilson to Black Creek; Project 481, an 18 foot topeka top road, between Carey and Wake and Durham county lines, 8 miles long and including a bridge containing about 350 yards of concrete; Project 677, a similar road running from Maxton to Laurinburg, 8 miles; Project 484, four concrete bridges between Goldsboro and Mt. Olive, averaging 300 yards of concrete each; in addition Project 388 has been completed at a cost of \$120,000. The firm also held contracts for Project 68 consisting of 30 miles of dirt roads costing \$350,000 and Project 58 providing for about 8 miles of road. It has now four

road building outfits engaged, and work under contract insuring operation at the present rate until next July.

The Selma Brick Co., controlled by the George M. Norwood Brick Co. of this city is running its two plants at capacity in the manufacture of common brick supplied to building operations throughout North Carolina. The capacity of the plant at Lillington has been about doubled recently, and additional improvements will be carried on through the winter months.

Extensive improvements to the city water works are under way. A storage reservoir with a capacity estimated at 600,000,000 gallons and covering 120 acres as well as a storage tower of 800,000 gallons capacity form a part of this program. Bonds totaling about \$388,000 were sold for the purpose. Water mains are being extended to many sections to keep pace with the growth of new buildings. Paving and sewer work costing several hundred thousand dollars has recently been undertaken.

A five-story building for the State Department of Agriculture is going up at a cost of about \$325,000. The upper floor will be set aside for legislative use. J. E. Beaman is the contractor.

Large sums are being expended in fulfillment of the various expansion and improvement programs of the educational institutions in this immediate vicinity and throughout the state. The City of Raleigh has \$1,000,000 available for new schools and improvements to the present structures, and the first contract provided under this plan has been awarded.

A program calling for a total of \$6,500,000 for state institutions over a period of two years will be completed by August, 1923, under the direction of the Joint Building Commission. H. A. Underwood, of Raleigh, is the engineer and architect. The work was begun in July 1, 1921 and since then construction has been proceeding steadily on about a dozen different projects among which are the following briefly summarized:

State Hospital, Raleigh, 17 buildings of various types for specific purposes, costing \$765,000, and providing for 700 additional patients. J. E. Beaman contractor.

Appalachian Training School, Boone, costing \$140,000 about 50 per cent complete, with Poe-Triplett Construction Co., Lenoir, as contractors.

Cullowhee Normal & Industrial School at Cullowhee, costing \$175,000, 95 per cent complete. The Hester-McElwee Contracting Co., Raleigh, are the contractors.

North Carolina Sanatorium, for treatment of tuberculosis, at Sanatorium, costing \$350,000 about 75 per cent complete.

State Hospital for Insane at Goldsboro, costing \$300,000. C. V. York Construction Co., Inc., and J. E. Beaman are the contractors. The work is about 92 per cent complete.

Caswell Training School, at Kinston, costing \$340,000, with provision for 1000 children, is nearing completion. Southern Ferro-Concrete Co., Atlanta, are the contractors.

East Carolina Teachers College, Greenville, costing \$325,000 is about 60 per cent complete. J. E. Beaman has the general contract.

State Hospital at Morganton costing \$108,000 with Hancock & Davis, Beaufort, N. C. as general contractors and the Baltimore Construction & Supply Co., Baltimore, furnishing the cold storage equipment. This work has just been started.

James A. Davidson, Raleigh, has the contract for a \$40,000 soldiers home.

According to Simms Jamieson, Secretary of the Chamber of

Commerce, in five years the building permit valuations of the city jumped from \$200,000 to \$2,000,000. The Pullen Baptist Church and the Church of the Sacred Heart are among the new buildings under way. A \$200,000 structure to be known as the State Theatre is being promoted, and plans have been prepared. Residential development is greater than in any three years past according to the secretary. Plans are under discussion for a belt line railway: a survey has been made and a comprehensive development arranged.

The Merchants Association, with Robert N. Simms, president, is waging a "Trade in Raleigh" campaign with marked success.

The Union Paving Co., of Philadelphia, with offices in this city, W. F. Wilmoth, manager, has contracts for road work to cost about \$2,800,000 and providing for nearly 100 miles of asphalt surface highways. By December 31 some 30 miles of this work will have been completed, with enough remaining to carry operations through most of next year.

Included in the work under way by Raleigh firms are the following projects: a \$60,000 school at Spring Hope, a \$45,000 school at Middlesex, a \$15,000 structure at Farmville, and a \$50,000 school at Moyak. At Goldsboro a \$500,000 building is being erected for the Bank of Wayne, and at Carthage a \$140,000 courthouse is going up. At Lenoir a \$125,000 school is nearing completion as is also an \$80,000 building at Granite Falls. Three rural schools are under way near Troy. At Candor \$75,000 is being expended and a similar amount at Four Oaks. The Johnson County Courthouse costing \$425,000 and the Ashboro School at Greensboro costing \$400,000 are also noteworthy developments.

At least three contractors in this city report they have all the work in hand they can care for until August, 1923. Others are not seeking any new contracts. Architects are busy supervising buildings under construction, and doing everything possible to get these unfinished tasks out of the way. Many plans are in preparation for structures to be erected next year, and yet others are being held in abeyance pending improved conditions in delivery of materials and in prices.

"Conditions have so improved during the past two years as I had originally believed impossible in a period of less than five years." This statement comes from W. B. Drake, Jr., president of the Merchants National Bank, and typifies conditions in this section of the state. And with increased prices for farm products, stimulated demand for all manufactured articles and an advancing tendency in the price, of all commodities, there is genuine prosperity at hand throughout practically the whole of this great state, which is going forward in many important lines of development at a rate exceeding that of any other state in the country.

### **Notable Activity Seen at Durham in Building and Industry—Farmers Paying their Debts and Merchants Prosperous.**

[Special Correspondence Manufacturers Record.]

Durham, N. C., November 17.

This city is very much alive with industrial, municipal and building activities, and the territory outside the city limits is a real beehive of industry. And the business men, bankers and manufacturers all are looking forward to even better things next year.

The various industrial plants in and about the city are working at capacity, and the products are selling at satisfactory prices. Many extensive improvements and additions are under way to care for increased business expected next year.

The city program calls for \$400,000 in paving in 1922, and \$200,000 next year; sewers, \$60,000 and \$50,000 in 1923; water works improvements, \$60,000 and about the same amount for the coming year.

Plans are being worked out for an adequate zoning

scheme to take in both the city proper and the outlying sections, so that the entire development may harmonize.

Milburn, Heister & Co., architects, of this city and Washington, have prepared plans for a \$250,000 Masonic Temple building to be erected in the near future.

Six miles from the city, at Eno, the Southern Power Co. has begun the erection of a stand-by auxiliary steam plant, which will cost \$1,500,000.

Work is proceeding on a community building for the First Presbyterian Church to cost \$50,000.

The Durham Public Service Co. in the year ending November 1 made about 600 new connections to serve houses in this section with electric power; this demonstrates the tremendous amount of home building that is actually under way. It represents an increase of about 15 per cent over the total connections for the preceding year.

Millions of dollars are going into improvements and additions to the various educational institutions within the city and in the outlying sections. At Trinity College upwards of \$500,000 is being expended in a new dormitory, a religious training building, science hall and a law building. Since 1916 the attendance has practically doubled. At the University of North Carolina, Chapel Hill, an expansion program necessitating an expenditure totaling \$1,000,000 is under way. The buildings are of modern fireproof construction, of steel, brick, tile and concrete.

At a cost of \$600,000, city schools are being built and improvements made. A \$350,000 high school building is now nearly finished. It contains 18 classrooms, mechanical shops, hosiery mill rooms, laboratories, cafeteria, sewing rooms, commercial banking and stenographic rooms, art gallery, library, and an auditorium to seat 650 people.

In East and West Durham two schools now building will cost \$100,000, and Lakewood is erecting a \$30,000 school.

The city is laying sidewalks this year in various sections to cost \$40,000, and \$30,000 will be expended next year for similar work.

The white way has been extended to include numerous streets in the business section at a cost of \$20,000.

A cemetery annex of 80 acres valued at \$40,000 is being developed at a cost of \$25,000.

J. B. Mason, of the Citizens' National Bank, states that the various mills and factories of Durham are working at capacity and employing thousands of people at good wages, and that the recent advance in the price of agricultural products has been of great help to the farmers, who are now paying their obligations freely. Conditions generally according to Mr. Mason show an improvement of 20 per cent over last year as evidenced by the steadily growing deposits in the banks. In his own institution he reports \$200,000 in increased deposits in two months.

The hard surface roads forming a part of the highway to run from the ocean to the Blue Ridge Mountains and passing through Durham county have been completed. Such a highway to Chapel Hill has also been finished. Work is now proceeding on the section of the Miami-Quebec route coming into this city.

The Cheek-Holton Lumber Co. recently opened a large lumber yard at East Durham and has installed a complete wood-working shop.

Business houses, garages, apartments, warehouses, and residences of every kind form a part of the varied construction program under way throughout the city and its environs.

I. C. Lawrence, local contractor, has recently completed a \$100,000 school at Hillsboro, and a \$90,000 structure at West Durham. At Chapel Hill he is building a \$30,000 fraternity house, and at Duke a \$70,000 school. He is building also a number of dwellings costing \$5,000 and up. Two of these will cost \$25,000 and \$45,000 each.

The Chamber of Commerce has established courses in



salesmanship and in advertising under the direction of the Department of Commerce of the University of North Carolina, and will add similar courses as the classes are organized.

The tobacco crop this year in the vicinity was very good and high prices were received by the farmers. The recent advance in cotton has also helped. Merchants report buying good and collections improving steadily. The big tobacco consuming factories here are working at capacity, as are the hosiery and cotton mills.

### Model Factory Village of the Erlanger Company.

Erlanger, N. C., November 18—[Special].—In this suburb of Lexington, the Erlanger Cotton Mills Company have one of the most unique and interesting textile mill developments in the country. Just now extensive improvements are being made to the plant and equipment, and additional houses are being erected to serve as living quarters for the necessary new workers.

Since it was established the plant has operated at capacity, and about 600 persons are now employed, on day and night shifts. The company owns about 225 acres of land on which the mill and village are situated as well as the auxiliary operations such as farm, dairy, etc.

At home 1100 looms are in operation and 140 others will soon be installed. The equipment is electrically operated, with individual electric motors. The plant buildings are all of concrete, steel and brick construction, entirely modern and fireproof. The grounds are well kept, the streets are all in fine condition, and water and sewer facilities reach every house as well as electric power, all of which is supplied free to the tenant.

Each worker is supplied a house according to the size of his family; for instance, a man and wife would have a three room house, and so on. The rent is standardized at 25 cents a week per room, so that the rent on a four room house is but \$4 a month, and it is stated that the rent just about pays the upkeep. The houses that are now being erected, 20 in number, are all of the bungalow type with all modern conveniences. Each house has plenty of grounds about it for flowers and garden, and fronts on a wide street, usually with parked space and trees along it. Few of the houses are alike and none in the same block are alike, and they are even painted various colors to remove any appearance of monotony. That the workmen and their families are well satisfied is evidenced by the scores of well kept flower gardens in the village.

There is a nursery where women workers may leave their children under three years old. A special nurse is employed all the time for sickness in the village. There is a welfare building, a complete dairy plant to supply milk to all the residents at low cost. Recreation grounds are provided. There are two schools and all children from three to five are cared for until they are 16 years old, the younger ones being sent to a kindergarten. A handsome teacherage where all the instructors live is provided, adjacent to the schools, which are open nine months out of the year. Those who desire may attend the district high school free.

There is a special section where the residents may operate their own gardens, and there are provisions for raising pigs and keeping cows in a certain section. The garages for all workers are centralized to keep garages from being erected on the rear of the house lots.

In fact, the village is complete in itself with stores, amusement places, churches, and everything necessary for happy development of community life.

At Yadkin, on the Yadkin River, the North Carolina bleachery mills, controlled by this firm, are located, and extensive

additions and improvements are under way there to coincide with the development here. Twenty new houses are being erected also.

The Erlanger plant here turns out all the material used in manufacturing B. V. D. underwear, and it is said to be the most up-to-date cotton mill and village in the country.

### Mexican Tramway Facilities to Be Enlarged.

Mexico City, Mexico, November 3—[Special].—Important enlargements, extensions and improvements of the properties of the Mexico Tramways Company, Ltd., and its affiliated corporation, the Mexico Light and Power Company, are planned according to authoritative information obtained here. The work of providing additional water storage supply for the great hydro-electric plant of the Mexico Light and Power Company at Nacaxa, about 100 miles from Mexico City, is well advanced. The power transmission system, which already reaches the capital and other important industrial centers, will be extended to towns within a wider radius of the hydro-electric plant.

The Mexico Tramways Company, Ltd., has under consideration the construction of two interurban lines—one from Mexico City to Toluca and the other from Mexico City to Pueblo. These two projects were well underway when the opening of the revolutionary period in the fall of 1910 caused a cessation of the work. At that time it was proposed to build a branch line from Amecameca, at the foot of Mt. Popocatepetl, to the summit of that volcano. This road was to have been operated part of the way by the cog system, and its purpose was not only to carry passengers but to transport sulphur from the interior of the crater to Mexico City. It was reported recently that the British interests which own these electrical properties were negotiating for their sale to an American syndicate but there has been no confirmation of this report here.

The labor conditions under which the tramways have been operated during the last several years have been almost unbearable at times, but the government, through direct action of President Alvaro Obregon, has shown a strong disposition recently to protect the company's interests from this labor oppression. President Obregon has notified the employees that the government will no longer tolerate strikes, especially when they are for some political purpose.

### A Fine Special Edition.

A broad survey of the progress of Durham, N. C., from a mere hamlet at the close of the Civil War to the position of one of the foremost industrial and commercial cities in the South is finely presented in a special edition of the Durham Morning Herald of about 75 pages, many of which are illustrated with pictures of different business establishments of note. While Durham is best known to the general public for its tobacco industries it is also an important cotton manufacturing center having several big mills whose products are of national reputation. It is also a distributing center for a large territory and its commercial activities are of considerable magnitude. There are five banks and three trust companies, besides a savings bank, to take care of the financial needs of the city, and its real estate and insurance firms and companies are also conspicuous for enterprise and energy. One page of the paper contains a trade radius map showing Durham's location with respect to other important cities, this being accompanied by appropriate tabulated facts. A section of the special issue is devoted to a description of the progress of the negro race in Durham, the city being the home of many thrifty colored men and women, numbers of whom are active in business and in the professions. The edition itself is a fine example of Durham enterprise and accomplishment, being entertainingly written and well printed.

# Good Wages in Furniture Industry a Big Factor in Prosperous Conditions at High Point, N. C.

[Special Correspondence Manufacturers Record.]

High Point, N. C., November 11.

War wages and better now prevail in this big center of furniture manufacturing. The thousands of workers in the more than two score plants here are regarded as 150 per cent efficient compared with normal times, which means that the output per man is 50 per cent greater than ordinarily. This accounts for the high rate of pay.

This higher pay has been an economic blessing to the entire section, which is very active in practically every line. Most of the factories are operating at capacity and overtime; some are working day and night to supply the demand for their products, coming from all sections of this country and even from Canadian provinces on the Pacific coast. Better living conditions have been provided as a result, and throughout the district many dwellings of a type far superior to those of even a few years ago are being erected. Prosperity is general and abundant, and the consensus of opinion of some two score business men, manufacturers and bankers of this city is that conditions point to continued improvement next year.

There is no flurry that marks this intense activity that almost overwhelms the visitor here; there is no boasting or general discussion of the splendid conditions prevailing. Just a sane and safe forward movement with every class participating, with manufacturers studying and carefully analyzing conditions and laying plans for continued full operations next year. There will be prosperity and a sufficient volume of business for every industry that is "up and after it"—that is how High Point factory heads feel about the future, and they will not wait for business to come to them.

"In a period of 12 months our deposits have increased \$1,000,000," stated J. Elwood Cox, President of the Commercial National Bank, "and our profits have been correspondingly larger. Next spring the bank will occupy an 8 story office building being erected now at a cost of \$500,000 after plans by Charles C. Hartman, architect of Greensboro. R. K. Stewart & Co. of this city have the general contract. And eight months before it will be ready for occupancy it is 60 per cent rented, having a total of 105 offices. Two floors will be utilized by the bank itself."

"An increase of \$300,000 in deposits in a period of three months is the record of the Atlantic Bank & Trust Company's High Point branch," according to J. A. Mizell, cashier, "and we are daily opening new accounts. Business in all lines is gaining headway in a satisfactory manner."

The building of the system of good roads throughout the state has had an almost amazing effect on improving business conditions, according to Mr. Cox, who is a member of both the state and county highway commissions.

"In this state we feel that we are getting \$1.25 for every \$1.00 invested in good roads," he said, and added, "To insure first-class work we have a force of trained and skilled inspectors which does nothing but see that every foot of road laid comes up to requirements. Already we have laid out and authorized roads to cost \$35,000,000, and additional funds will be expended just as fast as seems expedient after the first of the new year. A committee composed of R. A. Doughty, Sparta; W. C. Wilkinson, Charlotte; John S. Hill, Durham; W. A. McGirt, Wilmington; and myself, together with Frank Page, highway commissioner, are considering the recommendation to the next legislature of a further bond issue for roads of \$15,000,000. Taxes will be imposed on heavy trucks and on bus lines to help maintain the roads, and possibly an additional tax will be imposed on gasoline. We feel that it is most economical to proceed with the completion of our good roads system while we have the organization intact;

therefore we are laying our plans for the immediate future.

"This county alone is spending \$2,000,000 for roads. Everywhere throughout the state the counties are working to supplement the state roads system with other roads. In fact road building in this state is a most popular venture."

"Of 140 exhibitors in the \$1,000,000 building here there is scarcely one who is not literally swamped with business," is the opinion of Charles F. Long. "In fact many of them have withdrawn their lines from the market, and some have even sold their samples off the floors.

"In October we had the greatest number of buyers since we opened—125—from all over America, some from Toronto, Canada, and San Francisco, Cal. This buying movement we attribute largely to the tremendous house building program under way throughout every section of the country. Had not the shortage of houses prevented, our population in the past two years in this section would have increased by 4000 and we could use all the labor for we are even now short. Prices are advancing because of raw material costs. The mirror people have withdrawn prices.

"The South which has been out of the furniture market for some time, generally speaking, is coming back strong with the good prices for farm products especially tobacco and cotton that prevail."

Among the 40 or more local furniture manufacturers and allied trades here not one fails to operate at capacity. And 75 per cent of the sales are for northern and western consumption. Every firm is booked to capacity operation until at least January, most of them refusing to accept orders as yet for 1923 business. Buyers are here clamoring for shipments and making purchases of everything they can get. Evidently the wholesale houses in many sections of the country, and the stores as well, have permitted their stocks to become depleted, and the exceptionally good business that prevailed during September and October in the furniture line has made the shortage acute.

The High Point Furniture Company, M. J. Wrenn, manager, is sold up to January 1 in all lines and is working at capacity. The Kearn Furniture Company which is sold up to February 1, reports an increase of 25 per cent over last year. W. B. Thomas, of the Union Furniture Company, reports orders in excess of production.

"We have five times more business now than at this time a year ago," stated J. V. Wilson, general manager of the Knox Upholstery Company, "with bookings until January 15, and we are working day and night to fill them."

R. B. Terry of the Dalton Furniture Company foresees an era of prosperity for those firms who go after the business persistently and steadily during the next few years. He states:

"We are paying higher wages here than in any industry save probably the automobile, glass and steel lines, and the efficiency of our workmen is 50 per cent greater than normally. I believe that the business of the next few years will of course be done on a small margin of profit but in the aggregate, due to the big volume, the sum total of profits will remain normal. Within the next 10 years we are in for a greater expansion in all lines than has transpired in the past 25 years."

A. E. Tate, president of the Tate Furniture Company, has orders in hand insuring capacity operations for over two months, with demand far exceeding production.

"We are sold for months ahead," states E. F. Tate, of the Continental Furniture Company, and president of the local Chamber of Commerce, and adds:

"I see good, safe, steady business for next year. Building operations are good and getting better. The demand for homes and for furniture is steadily increasing. We are

paying better than peak wages, and getting excellent production results.

"The demand for mirrors is such that the glass factories cannot supply the plate. Prices are very firm and advancing."

C. F. Tomlinson, secretary and treasurer of the Tomlinson Chair Manufacturing Company with several plants employing nearly 500 persons, reports the volume of business 50 per cent in excess of last year. The High Point Mattress Co., organized only five months ago, is working day and night producing six times the initial output, according to John A. Holmes, general manager.

So fast have orders poured in to the Alma Furniture Company and the Hayworth Rolling Panel Company that all salesmen have been called in, according to C. E. Hayworth, general manager.

That the demand is not wholly for supplying new homes with furniture is evidenced by the activity and capacity operation of an exclusively office furniture producer, the Myrtle Desk Co., H. W. Fraser, manager, which now has trebled the business of a year ago.

But the furniture factories are not alone working on a full time schedule. Every industry in the town is participating in the general forward movement. The Royal Hosiery Mills, J. W. Keran, secretary-treasurer, reports conditions greatly improved with sales equaling output. The Crown Hosiery Co. has maintained capacity operations throughout the year and according to G. H. Kearns, is sold up to next March. P. M. Dillon of the Dillon-Vitt Underwear Company reports conditions steadily improving.

A 150 per cent improvement as compared with last year is reported by W. L. Smith, secretary of the High Point Machine Works, Inc., which is handling repair work of all kinds.

Extensive warehouse additions are being made by the Pittsburgh Plate Glass Company of Michigan to supply North Carolina trade, states W. D. Brooks, local manager, who reports a great scarcity of sizes with prices increasing. A year ago there was practically no market; now the demand is unusually heavy. Paint and brushes are to be handled next year, and the sales and office forces will both be enlarged to take care of business now in sight.

The Snow Lumber Company, engaged in producing lumber and particularly mill work for house and factory construction, is operating at capacity, according to Alvin B. Parker, with shortage of railroad facilities the chief difficulty confronting them. The mill here is using 75,000 feet of lumber daily in its products, which due to the railroad congestion and inability to get sufficient cars, are being delivered via automobile truck for miles around. Only this week a customer from Galax, Va., was here to see about making truck delivery to that point. Orders are coming in so fast that practically every sale is made through the city office. The orders aggregate a million dollars yearly.

The High Point Overall Co., according to H. T. Hudson, president, reports a 100 per cent increase in shipments during the past year; business is in sight for capacity operations during the next three months, and the outlook is very encouraging.

Demand for the product of the Amos Hosiery Company necessitates running day and night according to R. F. Amos, manager, and it has been found advisable to withdraw its lines from the market until after January 1.

W. C. Idol, cashier of the Wachovia Bank & Trust Co. anticipates marked improvement in the next few months as a result of the general prosperity now at hand.

A 25 per cent increase in business compared with last year is reported by R. H. Shaw, general manager of the Wrenn-Columbia Furniture Company.

As demonstrating the tremendous strides being made by furniture manufacturing in the state, Dr. W. C. Riddick,

president of the Agricultural and Engineering College of North Carolina, has suggested to the men of the industry meeting here this week the desirability of establishing a special course in the manufacture of furniture at that institution. This recommendation was heartily endorsed by the manufacturers and efforts will be put forth to make it a reality.

A municipal building to contain a large auditorium is being erected at a cost of about \$250,000. It is of steel, brick and concrete construction.

Work is proceeding on the first unit of the Methodist Protestant College a short distance from High Point. This will involve an ultimate outlay of \$1,000,000.

Many public garages are going up in various sections of the city, also business houses of all kinds. Established firms are making improvements. The building permit valuation this year will establish a new high record.

## ANNUAL REPORT SHOWS FORT WORTH ACTIVE IN COMMERCE AND INDUSTRY.

**New Business Houses Located in City Total 850—  
Value of Manufactured Products Stated as Over  
\$155,000,000 Yearly.**

Fort Worth, Tex., November 17—[Special.]—In his annual report, Roscoe Ady, Industrial Commissioner of the Fort Worth Chamber of Commerce, states that for the fiscal year ended November 1, commercial agencies report a total of 850 new business houses located in the city. Building permits for the year represent a construction cost of \$6,376,385, surpassing the previous year by 34 per cent. The total is said to be the third largest in the history of the city.

Among a number of large buildings to be erected in the immediate future are the Methodist Hospital, and the Fort Worth Club building, each to cost \$1,000,000, and a \$1,000,000 sewage disposal plant.

An addition has been completed to the plant of the Fort Worth Power & Light Co. at a cost of \$1,000,000; \$700,000 was expended for the erection of seven school buildings in the suburbs, several having recently been brought into the city by the annexation of adjacent territory. Probably the most important phase of building activity is the erection of more than 2000 dwellings and a large number of apartment houses.

The outlook for substantial industrial growth during the coming year is bright, the location of two manufacturing enterprises being in immediate prospect, one to represent an investment of \$1,250,000 and the other \$500,000. Negotiations are now on also for the location of a number of other plants.

Details for the establishment of a 20,000-spindle cotton mill are under consideration by the Chamber of Commerce and a committee has been appointed to investigate further and plan a temporary organization.

According to a report of the U. S. Census Bureau, Tarrant county, in which Fort Worth is located, is credited with manufactured products of the annual value of \$155,299,159.

## Better Boat Service From Tampa to New Orleans.

Tampa, Fla., November 17—Plans for a more adequate steamship service for freight and passenger traffic, between Tampa and New Orleans, are being worked out by the Gulf & Southern Steamship Co., which is connected with the Clyde and Mallory lines. The steamship Tampa will replace the Truxillo and will be ready for service in January.

The Tampa is an oil burning ship of 3000 tons and will accommodate 112 passengers. The length is about 225 feet and speed from eleven to twelve knots.



## ARE COTTON MILLS FEASIBLE FOR TEXAS? A Clear and Comprehensive Report of an Investigating Committee.

Austin, Tex., November 15.—[Special.]—Every phase of the textile industry in the Carolinas and New England was studied by the committee of business men of West Texas who recently visited those sections for the purpose of investigating the practicability of constructing cotton mills in the western part of Texas. In a report of the findings of the committee, which has just been made by Chairman Herbert Jones, of Post, manager of the Post-Texas Cotton Mill, is contained the following:

"We found that one of the principal reasons for the rapid development of the Southeast in a textile way was the fact that those engaged in it were practically 100 per cent Anglo-Saxon origin. They live, think, eat, talk like the average American. We were privileged to see their children entering school, and found them as neat, clean, well dressed, bright looking as children to be found anywhere. We found that the cities which were located in a mill district were busy, hustling, up-to-date cities, and those cities which unfortunately were not in a mill center looked like back numbers. You may perhaps think that your committee became enthused over the Piedmont section, and without a doubt we did. It is impossible for anyone to make an investigation throughout that section, noting the class of people who live and work there, the type of homes they live in and the general, wide-awake look of prosperity which prevails, without feeling that it would be a godsend to West Texas if we could create similar conditions here.

"Your committee believes that the following are the points which should receive most careful consideration: First, finances; second, capable and successful men for management; third, a sufficient supply of labor; fourth, character of goods to manufacture; fifth, size of plant.

"Your committee found during their investigation that it would be possible to arrange for payment of part of the machinery charges over a period extending probably five or six years. They found also that commission houses, if they were satisfied that the proposed plant was sound every other way, would be willing to take 25 per cent or 30 per cent of the stock issued.

"There are no criticisms to make on the first proposal. The deferred payments to the machinery builders carry current rates of interest, and there are no strings attached to same. Regarding the holding of any considerable quantity of stock by the commission houses this is very desirable from the point of raising a portion of your capital very quickly. However, the plan has many disadvantages. There are today many mills in the country which are absolutely at the mercy of their selling houses, and this is not always desirable. It is advisable if possible to have the selling house in the same relation as any other concern with whom the plant does business, viz., our connections continue only so long as they are satisfactory, but you will readily see that with a commission house holding 25 per cent or 30 per cent of the stock, the plant is tied to them, whether for good or ill. We would suggest that, wherever possible, capital be secured from sources which do not bring any entangling alliances and only in cases where the co-operation of the selling house is necessary to finance the project should they be called upon to subscribe. Far better arrangements can be made where the commission house is seeking the mill than where the mill is seeking the commission house. In other words, if possible, do not let the tail wag the dog. The approximate cost of financing a mill to manufacture the line of goods which are most suitable for Texas would range between \$55 and \$65 per spindle.

"A capable and successful man for management is probably

one of the most important things you will have to consider. It is an undoubted fact that the early investors in Texas cotton mills lost practically their entire investment, due, in many cases, to inefficient management. Your committee believes that the greater the ability of the man secured, the quicker and more permanent will be the returns upon the investment. There is often a wide margin between the salary of a mediocre man and one who is well equipped for the work he has to do. We believe it a mistake to place managers in charge of plants because some large investor has a friend who is looking for a job. We think the record of any man should be looked into thoroughly before we intrust him with the management of one of our plants.

"We believe that a sufficient supply of labor is also a subject of very great importance. You may secure the best manager in the world to handle your plant, and he is helpless without the co-operation of a trained labor organization. Even in the most desirable location in West Texas it would probably be necessary to import from other mill centers fifteen to twenty families of trained operatives, using these as instructors for the untrained help which will be available. In regard to the potential labor supply it will perhaps be well to remark that Fort Worth is in a very desirable position. There are hundreds, perhaps thousands, of young men and women who could find more lucrative and less onerous employment in a cotton mill than is now available in that city. We believe the time is now ripe when Fort Worth can, and should without any outside assistance except deferred payments on machinery, proceed with the erection and organization of her first cotton mill. Regarding the labor supply in our towns in the western part of the State, we must bear this in mind that the problem is vastly different than the problem in a city the size of Fort Worth. In Fort Worth there is always a potential labor supply. In our smaller cities of the West we are not so fortunate, and your committee believes that the real solution of our labor problem would be the inauguration simultaneously of several cotton mills in towns adjacent to each other. We feel that with several mills in the same district at which an operative can have the choice of employment, the possibilities of securing trained operatives are far greater than they would be where a plant is isolated, as in the one at Post. It has been found in other sections that for every trained operative who applies at an isolated plant, there would be at least five applications upon the location of another plant there. We believe that scattering mills at long distances apart would make each of these mills go through a period of unproductive years, from a financial standpoint, which would be avoided if some district was selected and several mills grouped within easy reach of each other.

"Without any question our actual ventures into textile manufacturing should be along the most simple lines. There are a wide variety of goods which come within this class, and on all these goods there is an outlet in the Southwest. Foremost among them may be considered narrow sheetings, denims, drills, chambrays, etc. We believe before deciding upon the kind of goods to be manufactured we should find out from the different commission houses the line which would in all probability prove most profitable.

"It has been customary for Texas to build her cotton mills much smaller than is necessary for a real economical unit, and in this regard would say that a 20,000 spindle plant is the smallest plant which should be considered. The overhead on a plant of this size is very little, if any greater than on a plant of 10,000 spindles, consequently the percentage returns on an investment would be much greater on a 20,000 than on a 10,000 spindle unit.

"The above report, while fairly lengthy, does not cover by any means all the information which your committee se-

cured. We believe, however, that the report is wide enough in its scope to supply much information which has been lacking previously, and should be sufficient to convince our citizens of West Texas that their country should be a natural textile center. If it had been possible for every resident of West Texas to have seen and heard the things which their committee was privileged to see and hear, we know that, no matter what the obstacle, it would not be very long before cotton mills would be rearing their frames in many towns of West Texas."

### Electric Cotton Picker in Three Weeks Test.

Cotton Picker Company of Arkansas,  
Little Rock, Ark., November 10.

Editor *Manufacturers Record*:

A three weeks test of the Stukenborg electric cotton picker was completed October 19 in cotton fields east of Little Rock.

The machine did satisfactory work in every respect. It was operated in fields of short, medium and long staple and on big boll and small boll cotton, doing equally good picking and cleaning with all kinds. The cotton in that section is particularly difficult to pick this season. A good rain had not fallen since May 15 and the summer was the hottest but one in 42 years. The result of these weather conditions was the premature ripening of the cotton, weakness of fiber, many dead and dried up stems and leaves and much light seed. The tests were conducted under the supervision of F. W. Stukenborg, President of the Cotton Picker Company of America.

Hand pickers found it almost impossible to gather the cotton without a large mixture of dead leaves and stems, a serious detriment. The electrically driven brushes on this machine that pick the cotton gathered it clean, and the fans blew out the large quantity of dry soil that had been blown into the bolls by the winds caused by the heat and drought. The machine picked cotton was two to three grades better than that picked by hand at the same time in the same fields. Negro pickers using the machine, averaged four to five times as much cotton in the same time as hand pickers in adjoining rows. An Indiana farmer came into a field where the machine was working. It was the first time that he had ever been in a cotton field. He picked one-third more pounds cotton an hour with the machine than did experienced negro men picking in the same field.

Last year the General Electric Company sent its motor engineers into the cotton fields in Arkansas to ascertain exactly what equipment of generator and motors was necessary to enable the cotton growers to operate the electric picker with ordinary negro field laborers. The electric apparatus which they furnished this season worked during the entire test without a hitch.

Among the interested visitors from outside the state was D. B. Edwards, Secretary of the Australian Commission to the United States. After a careful study of the machine at work in the fields, Mr. Edwards decided that it was a practical machine and has recommended that his government purchase electric pickers immediately and test them in Australia, beginning with the opening of their picking season next April.

CHAS. E. CARTER, President.

### \$300,000 Refinery Sold—Plan Increase of Capacity.

Cisco, Texas, Nov. 17.—[Special.]—Edward Pippaz of Philadelphia, L. H. Christman of Dallas and associates have purchased the refinery of the Liberty Oil Refining Company located here. The plant was built at an original cost of \$300,000. It is stated that the new owners will increase its capacity to 3000 barrels of crude oil daily. The refinery has been shut down for about two years.

### Good Roads Show and Congress Meets in Chicago in January.

Arrangements are now being perfected to make the thirteenth American Good Roads Congress and fourteenth National Good Roads Show to be held in Chicago, January 15 to 19 next far eclipse in program and attendance any previous good roads meeting. Both events will be held under the auspices of the American Road Builders' Association, the largest and oldest good roads organization in the country. The twentieth annual convention of the Association will be held in Chicago during the congress. Many prominent speakers will attend, including officials of the Federal Government, several governors, state highway officials and mayors of American and Canadian cities as well as many engineers, contractors and good roads enthusiasts.

It is the intention this year to separate the congress and show by holding the former at the Congress Hotel and the latter at the Chicago Coliseum. This arrangement will obviate the necessity of shutting down the operating machinery during the sessions and eliminate the noise that has proved so annoying to speakers and delegates heretofore.

Shortly after his election, Thomas J. Wasser, state highway engineer, Trenton, N. J., president of the American Road Builders' Association for 1922-1923, appointed to the Executive Committee the following: Charles M. Upham, state highway engineer for North Carolina; James H. MacDonald, consulting highway engineer, New Haven, Conn., and J. H. Cranford of the Cranford Paving Company, Washington, D. C. By reason of his position as secretary, E. L. Powers became ex-officio, a member of the committee.

This committee, acting for the American Road Builders' Association, appointed Messrs. Upham and MacDonald, and the Highway Industries Exhibitors' Association designated its president, S. F. Beatty, vice-president of the Austin-Western Road Machinery Company, Chicago, to act as a committee having general charge of the arrangements for both show and congress.

This committee has created several sub-committees to have charge of the various detailed arrangements as follows: Transportation Committee, Royal M. Allen, Chicago, chairman; General Publicity Committee, S. T. Henry, New York, chairman; Chicago Press Committee, W. R. Harris, Chicago, chairman; Exhibitors' Committee, C. R. Ege, Chicago, chairman; Entertainment Committee, A. C. Cronkrite, Chicago, chairman; Reception and Hotel Committee, John B. Hittell, Chicago, chairman; Registration Committee, L. S. Louer, Chicago, chairman; Banquet Committee, Joseph R. Draney, New York, chairman; Program Committee, E. J. Mehren, New York, chairman.

According to President Wasser of the American Road Builders' Association, the chief difficulty will be encountered in providing space for all the exhibits, though arrangements will be made for all the additional space it is possible to obtain. "The Highway Industries Exhibitors' Association," said Mr. Wasser, "is giving us splendid cooperation in working out the arrangements. We expect to conduct a pre-convention campaign of greater compelling force and more far-reaching effect than ever before and I believe the attendance will break all records.

"The program for the congress, as it is being worked out by the Program Committee, will be the exact reversal of our previous ones. Instead of avoiding controversial subjects as in the past the program next year will be made up almost entirely of controversial subjects of interest to the road-building movement as a whole. This, we believe, will greatly increase the interest in the program and will provoke highly interesting and instructive oral discussions from the floor."

# THE IRON AND STEEL SITUATION

## Steel Production Remains Up at Pittsburgh.

Pittsburgh, Pa., November 18.—[Special.]—The current rate of steel production is fully equal to the rate of 40,000,000 gross tons a year shown for October. Apparently there is no decrease at any point on account of lack of orders, while all or nearly all the large mills claim they have business enough on books to carry them into January, with any further bookings.

As the steel trade is notorious for quick and radical changes, the situation is being watched narrowly. The interesting comparison can be made that from April 1, the date of the coal strike, to October 1 production of steel ingots was at an average rate of about 34,500,000 tons a year, while since October 1 the rate has averaged fully 40,000,000 tons, showing a 15 per cent increase. Last year having been one of drastic liquidation of stocks of steel and manufactures of steel, there can have been no stocks April 1, hence consumption did not exceed production in the six months, while now the supply is 15 per cent greater. Consumption in general would decrease with the approach of winter, but there is one influence at least on the other side, the heavier operation of car and locomotive shops. Production of steel is now at a rate one-third greater than the average rate in 1912 and 1913, the two biggest tonnage years before the war and industries generally hardly present the appearance of consuming as much steel now as then, with the exception of course of the automobile industry. The question therefore, is whether the rate of steel production will not have to be curtailed in the next few months.

The position of steel buyers in general is that they are well covered through this year by old orders, and will not buy to any extent for 1923 until they see how the steel market is going to work out. The market is very quiet, but this does not mean that consumers do not have reasonably good prospects for next year. It is merely a question of balance between requirements and offerings.

In bars, shapes and plates in particular buyers expect lower prices eventually, seeing that the market is about 50 per cent higher than early in the year, at 2.00c against 1.35c or less. Nothing in this direction has developed so far, however, as the market is reported a shade firmer than a week ago. All that has occurred is the recent disappearance of the delivery premiums of \$5 to \$10 a ton that ruled in September.

In the past week the black sheet market has settled back quite generally to the basis price of 3.35c, a price first attained by independent advances early in the summer, and then adopted at the middle of August by the Steel Corporation for fourth quarter contracts. In September sales were being made at 3.50c, 3.60c and 3.75c, according to tonnage and quickness of delivery. Galvanized sheets have not declined correspondingly to 4.35c, as there are still some sales at 4.50c. This indicates that sheet bars, now nominally \$38, which is also the basis of most fourth quarter contracts, will have to be priced lower for the first quarter.

On the whole, shipments of steel are equal to the production, but on account of car shortage the movement is accomplished with much difficulty. Mill stocks are being reduced at some points but are increasing at others. The Pennsylvania Railroad placed some sweeping embargoes this week, which are expected to clear conditions in a very short time.

Connellsville coke has declined this week 25 cents on furnace and 50 cents on foundry, being now quotable at \$6.75 to \$7.25 for furnace and \$7.50 to \$8.50 on foundry, the range in each case being according to tonnage and brand. For a long time blast furnaces were anxious to see lower

coke prices, but they do not relish the latest declines, for the reason that on the drop about a month ago from \$12 to \$8.00 or \$8.50 they concluded the narrower chance would be taken by buying, and so they covered quite generally at \$8.00 or higher to the end of the year. The active furnaces are not benefitted by the recent declines while the pig iron market is weakened by the sentimental influence, and idle furnaces can now go in and make pig iron cheaper than those already active. The valley market is down in the week about 50 cents on foundry, to \$28.50, and \$1 on basic, to \$28, Bessemer remaining nominal at \$32. With Buffalo iron down to \$27 and Birmingham down to \$23, the freights make it that Birmingham, valley and Buffalo iron are all at approximately the same price delivered Pittsburgh, an unusual alignment, the valley furnaces usually having the advantage.

## Steady Improvement in Pig Iron Production.

Birmingham, Ala., November 20.—[Special.]—Though pig iron prices are \$2 under what they were two weeks ago, No. 2 foundry, now being quoted at \$25, there has been only a little selling for delivery during the first quarter of 1923. Many inquiries are being received but the consumers are ardent in their demands for a still lower quotation. The Alabama Company has sold a little tonnage into next year on the \$25 level and the Woodward Iron Company and Central Iron & Coal Company also have orders on their books now for 1923 delivery. Reports are heard of round tonnages sold at a price from \$1 to \$1.50 under the new level but verification is not obtainable.

Visit to this district of high executives of the United States Cast Iron Pipe & Foundry Company recently brought out much gossip as to purchases of iron by that concern. The various plants of the corporation in the South are working steadily and old business on books will warrant rounding out of the year without interruption. The production of pig iron is steady, improvement month by month being shown. The Tennessee Coal, Iron & Railroad Company has ceased making, for the time being, ferro-manganese at its Bessemer furnace. This product is used exclusively at the steel mills at Ensley. The ore is from the United States Steel Corporation mines in Brazil, coming through the port of Mobile, and then via the Warrior river to the Birmingham district.

The report of stock on hand December 1 will show another reduction in the surplus of pig iron available in Alabama. There is less than two weeks make now on the yards in this state. Better transportation facilities, steady melting of pig iron, and acceptance of the product by melters who will use it later is cutting down the surplus piles.

Cast iron pipe interests still have a considerable tonnage to deliver before the end of the year and shipments are steady. Every boat leaving Mobile for the Pacific coast is carrying more or less pipe from this district. The soil pipe makers are also rushing out their products and warehouses throughout the country are being filled, looking forward to a maximum demand on the turn of the year. Some of the larger soil pipe plants in the immediate district are negotiating for heavy tonnages next year on a possibility of lower pig iron prices. The radiator plant and several of the active foundries and machine shops are still busy, with all prospects bright.

The coal mining industry is still affected by the car shortage. Railroads are promising better service every day and indications are that these promises will be carried out. Every railroad in the district has let contracts here for locomotive power, rail, cars, tie plates and other railroad accessories, in many instances stipulation being that there must be early



delivery on these contracts. Both of the car building plants are working on full time and will have to keep up this record for several months to come. Just as quickly as cars suitable for coal handling are delivered, they are put into service.

The weekly production of coal has been under 340,000 tons, which, for the past several months, is considered below the average output. Coke demand is still good with quotations around \$8 and \$8.50 for the foundry product. Bee-hive and by-product coke both are being produced on a steady base and there is no accumulation noted.

Steps will be taken at once to carry out at the proper time the provision of the amendment to the state constitution which gives to the port of Mobile the credit of the state for port development. It is hoped that work will be started soon on what will result in a port second to none in the South. The Birmingham industrial section is greatly interested in the development inasmuch as export business is showing a healthy stride.

The new hydraulic washed stripping method of coal mining near Tuscaloosa is beginning to attract attention. Water is brought from a creek a mile or two from the coal and the earth is washed off the coal with strong water pressure. Hunter Smith, Birmingham, is in charge of operations and a company of Tuscaloosa and Birmingham capitalists own the development. Success at this place, known as Alco, will bring about similar development in the Alabama coal fields.

The Alabama By-Products Corporation has made application to the city commission for the right to lay gas mains in East Birmingham, a proposition being made to pipe by-product gas to that section of the city for cooking and heating purposes. Crude gas is to be supplied, no effort to be made to furnish illuminating gas. The Alabama By-Products Corporation is headed by Morris Bush and within the next 60 days 25 new Koppers ovens will be added to the plant of 50 now in operation. Gas is supplied now to the National Cast Iron Pipe Company, the Vulcan Rivet Company and other concerns at Tarrant City, and the idea is to extend the supply to portions of Birmingham.

#### PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$25.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$25.50; iron of 2.75 to 3.25 per cent silicon, \$26.00; iron of 3.25 to 3.75 per cent silicon, \$26.50; iron of 3.75 to 4.25 per cent silicon, \$27.00; charcoal iron, f. o. b. furnaces, \$33.00 to \$34.00.

#### OLD MATERIAL.

Old steel axles.....	\$20.00	to	\$21.00
Old iron axles.....	20.00	to	21.00
Old steel rails.....	16.00	to	17.50
Heavy melting steel.....	13.50	to	15.00
No. 1 R. R. wrought.....	16.00	to	17.50
No. 1 cast.....	19.00	to	20.00
Stove plate.....	16.00	to	17.50
Old car wheels.....	17.50	to	19.50
Old tramcar wheels.....	18.00	to	20.00
Machine shop turnings.....	10.00	to	11.00
Cast iron borings.....	10.00	to	12.00
Cast iron borings, (Chem.).....	15.00	to	16.00

### No Pig Iron Embargo at Birmingham.

[Telegram to Manufacturers Record.]

Birmingham, Ala., November 20.

Referring to rumor of an embargo on pig iron shipments, furnace interests state that no notice of embargoes given by railroads here, but that possible west to east is feeling the same. Shipments are being made steadily today. Quotations of pig iron Monday down to \$24 per ton, No. 2 foundry, and some selling on belief now that buying movement is about to set in for next year's need, concessions being asked for by melters.

### Changes in Alabama Company Officials.

Birmingham, Ala., November 18—[Special.]—Harry W. Coffin, vice-president and general manager of the Alabama Company, has resigned to go into business for himself. J. W. Porter, has been advanced to the position and will also continue as general sales manager. E. N. Rich, Baltimore, president, was here all week in conference.

## RAILROADS

### Orders to Return More Than 5000 Cars.

The car service division of the American Railway Association has been directed by the Interstate Commerce Commission to issue orders to railroads northward of the Ohio River to return immediately 4000 coal cars to the Louisville & Nashville Railroad, this being in addition to the number of cars returned ordinarily. It seems that the offending lines have recently ignored car service regulations and have retained upon their lines for their own use cars belonging to other roads and that this step by the Commission has been taken to restore the equitable course of matters. It is further stated that the Commission has required the Eastern railroads to return about 1200 box cars belonging to the Union Pacific Railroad, the Great Northern Railroad and the Northern Pacific Railroad. Notice was also sent to the American Railway Association that if these instructions of the Interstate Commerce Commission were not fulfilled and their enforcement seen to, the Commission itself would take up the matter and see that the cars were returned to their owners. The car shortage in that part of the South served by the Louisville & Nashville Railroad and in that part of the West served by the several western lines named is very severe on account of the large crops demanding movement.

### Farm Demonstration Train in Texas.

J. I. McGregor, agricultural agent, has announced that a demonstration train of eleven cars will be sent over the Texas lines of the Southern Pacific Railway during the last of this month and the first part of December, carrying exhibits of agricultural products in great variety, live stock, farm implements, etc. G. A. Long, director of exhibits of the West Texas Agricultural and Mechanical College, has charge of the exhibits. One car will carry prize winning dairy and beef cattle, another sheep and hogs, another poultry, and so on, covering various products of the rural regions, including canned goods of superior character. There will be a lecture car, a home demonstration car, an exhibition of cooking, sewing, etc. The remaining cars will be used for the traveling force having charge of the train, to convey supplies required en-route, etc. Stops will be made wherever there is shown interest in the exhibits, or the likelihood of interest, so that the population of the country may be fully acquainted with the possibilities of life on farms.

### Improved Shipping Facilities.

Shippers and receivers of freight by rail in less than carload lots will be interested in the announcement by the Bush Terminal Co., of Brooklyn, N. Y., that it has put its package car service from New York to Philadelphia, Baltimore and Washington upon a permanent basis. As a result, it is stated that shipments which have taken five or more days in transit are now delivered in one day, or at the most in two days. Under this arrangement the company accepts for shipment packages of any size or character and consolidates them into carloads on a daily schedule. The service is available to all shippers and is not restricted to tenants of the Bush Terminal Buildings.

### Stock Issue to Buy 1000 Cars.

The Interstate Railroad Co., of Virginia, has applied to the Interstate Commerce Commission for authority to issue and sell at par to the Virginia Coal & Iron Co., \$1,500,000 of new common stock, the proceeds to be used for the purchase of 1000 new coal cars. The railroad company is now completing an extension in Wise County, Va., which will give transportation facilities to several coal mines.

### New Equipment, Rails, Etc.

Southern Pacific Railway will order 7000 more freight cars for delivery next year. It is stated that the contract will total about \$8,000,000.

St. Louis-San Francisco Railroad has ordered 50 locomotives, 1500 box cars and 300 stock cars.

Harry Benjamin Equipment Company, Central National Bank Building, St. Louis, has purchased from the St. Louis Southwestern Railway 100 miles of 75 pound relaying rails and angle bars for them and they will be disposed of to other lines in this country, Cuba, Central America, etc. The railway company is replacing these rails with heavier rails on their main line. The deal, it is stated, involves about \$300,000.

Pennsylvania Railroad will add to its equipment 250 passenger cars at a cost of from \$5,000,000 to \$6,000,000. It is also expected that several dining cars, to cost about \$40,000 each will be ordered later. A number of such cars have previously been built at the company's shops.

### Lumber Railroad Plan in Mississippi.

The Edward Hines Yellow Pine Railroad Co. has been authorized by the Interstate Commerce Commission to build a railroad in Lamar, Pearl River and Hancock counties, Mississippi, which will when completed be 52 miles long. It will cost approximately \$781,000. The Edward Hines Yellow Pine Trustees, lumber manufacturers, whose headquarters are in Chicago, are also established at Lumberton, Miss., in the southern part of Lamar county and the road will be built in connection with their lumber developments. Lumberton is about 45 miles in a direct line northward of Bay St. Louis, Miss., on the Gulf of Mexico and in the southern part of Hancock county. The construction of a railroad from Lumberton to Bay St. Louis would give the lumber operators an individual direct outlet via rail and water for their product.

### Heavy Freight Movement.

The car service division of the American Railway Association reports that during the week ended November 4 there were 904,827 cars loaded with revenue freight on the railroads of the country and that although this was a decrease of 19,653 cars as compared with the previous week, it was the largest number of cars ever loaded during the first part of November, the decrease in the number of cars loaded being due only to the seasonal decline in traffic. As compared with the corresponding week of last year the loadings showed an increase of 157,251 cars, or very nearly 19 per cent, and as compared with the same week of 1920, when business was also very heavy, the increase was nearly 80,000 cars. During the four weeks ended November 4 there was a total of nearly 4,000,000 cars loaded with revenue freight.

### A Minute Piece of Railroad Work.

The Grand Prairie & Northern Railroad Co. has applied to the Texas State Railroad Commission for permission to build a piece of railroad track only eighteen inches long, the purpose of which is to make a connection with a branch track of the Texas & Pacific Railway at Gravel Pit, in Dallas County. Previous efforts to obtain approval for this construction were, it is stated, unsuccessful.

### Will Erect 40 Miners' Dwellings.

Ashland, Ky., November 1—[Special.]—Contract has been awarded to Simpson & Elswick of Ashland by the American Rolling Mills for the erection of 40 dwellings at its mines at Nellis, W. Va. The houses will be of brick and tile construction, 1 story high.

## TEXTILE

### Cotton Exports From Galveston Make Gain.

Galveston, Tex., November 17—According to a report of the Galveston Cotton Exchange and the Board of Trade, cotton exports from Galveston reached a total of 388,667 square bales and 5188 round bales in October, as compared with 203,776 square bales and 6858 round bales in September. Other exports through this port also made large gains.

Cotton exports from Houston, which is included in this customs district, totaled 164,315 square bales and 36,127 round bales in October, as compared with 69,719 square bales and 824 round bales in September.

Exports of cottonseed meal for October reached a total of 10,228,303 pounds, as against 6,832,000 pounds in September, while exports of cottonseed cake fell off to 31,846,443 pounds in October to as compared with 39,232,695 pounds in September.

Flour exports for October reached 9,628,402 pounds as compared with 5,651,290 pounds for September. A total of 37,632,000 pounds of sulphur was exported through Galveston during October as compared with 36,610,560 pounds in September.

### Cotton Mill of 20,000 Spindles for Fort Worth.

Fort Worth, Tex., November 17—[Special.]—At a meeting November 13 of a committee of bankers, merchants, cotton dealers and capitalists appointed by the president of the Chamber of Commerce, decision was reached to erect a 20,000 spindle mill for the production of cotton goods.

A sub-committee composed of W. M. Massie, vice-president of the Fort Worth National Bank, and William Monig, president of the Monig Dry Goods Co., was appointed to confer with outside capitalists who have indicated a willingness to invest in a mill at Fort Worth.

The high altitude and comparatively dry climate of West Texas, it is said, has kept it free from the boll weevil and as a result the cotton acreage is increasing every year, so that a Fort Worth mill, it is thought, can be operated profitably.

### Robbins Knitting Co. to Erect Plant.

High Point, N. C., November 18—[Special.]—Plans of the Robbins Knitting Co. of this city, recently incorporated with a capital stock of \$150,000, provide for the erection of a plant to cost \$25,000 and the installation of machinery to cost \$50,000.

The building will be 150 by 60 feet, 2 stories, of brick construction, and will be equipped with 135 chain driven electric knitting machines having a daily capacity of 1000 to 1500 dozen pairs of ladies' and men's hose.

The company will design its own plant and construct it by day labor. It will operate with 200 employees.

### Norcott Mills Co. to Build Addition.

Concord, N. C., November 17—[Special.]—The Norcott Mills Co. of Concord will build an addition to its plant to provide for 6000 twister spindles and additional combing and mercializing machinery.

C. W. Johnston of Charlotte is president of the company and F. J. Haywood of Concord is secretary and treasurer.

### Will Increase Capital Stock \$200,000.

Chattanooga, Tenn., November 14—The Davenport Hosiery Mills is considering increasing its capital stock \$200,000 and has filed a petition for such amendment of its charter.

No announcement has been made of plant enlargements but it is said that plans call for a \$100,000 addition. The company manufactures silk products.

## GOOD ROADS AND STREETS

### Road Contracts for More Than \$2,000,000 Awarded in West Virginia.

Charleston, W. Va.,—November 18—[Special.]—Contracts for the construction of roads in a number of counties have been awarded by the State Road Commission on bids submitted November 14. These contracts aggregate \$2,180,597 and cover stretches of highway varying from .54 to 12 miles.

The mileage embraces a total of 129.54 and the awards are itemized as follows, cents being omitted on contract figures:

Boone county, 4 miles of grading, Sterling Construction Co., Akron, O., contractor at \$55,137; Boone county, 1.7 miles grading, Nash, Cain & Turman, Huntington, W. Va., \$33,888; Raleigh county, 4.2 miles of bituminous macadam, John E. Dougher & Sons, Union, W. Va., \$172,642; Pocahontas county, 4.23 miles grading, Frank S. Echols, Marlinton, W. Va., \$42,881; Nicholas county, 5.7 miles grading, Lookout Construction Co., Victor, W. Va., \$67,172; Summers county, 4 miles grading, P. M. Price, Hinton, W. Va., \$57,288; Clay county, 4.6 miles grading, W. C. Markle & Co., Clay, W. Va., \$71,259; Mason County, 9 miles grading, James E. Doyle, Huntington, W. Va., \$103,224; Mason county, 5.5 miles of gravel construction, Coleman Bros., Ashton, W. Va., \$94,846; Mercer county, .6 mile bituminous macadam, G. T. Franklin & Co., Pocahontas, Va., \$20,449; Wayne county, 9 miles grading, Hatfield Construction Co., Huntington, \$166,980; Wyoming county, 3.63 miles grading and Raleigh county, .54 mile grading, G. T. Franklin & Co., Pocahontas, \$92,162; Calhoun county, 11 miles grading, Hardman & McKown, Spencer, W. Va., \$186,864; Wirt county, 12 miles grading, Eberbach Construction Co., Pomeroy, O., \$253,867; Webster county, 11 miles grading, Mace Construction Co., Webster Springs, W. Va., \$99,709; Gilmer county, 10 miles grading, Keely Construction Co., Clarksburg, W. Va., \$248,125; Upshur county, 6 miles grading, W. H. Rhodes, Elkins, W. Va., \$70,193; Grant county, 2.4 miles water-bound macadam, Hampshire county, 8.6 miles grading, and Mineral county, 7.6 miles of gravel, L. J. Chandler, Virgilina, Va., contractor for the three projects at \$62,933, \$110,339 and \$71,661, respectively; Berkeley county, 4.24 miles water-bound macadam, Bester-Long Co., Hagerstown, Md., \$98,971.

### The Gandy Bridge Will Cut Down Distance Between Tampa and St. Petersburg.

Tampa, Fla., November 17—The concrete toll bridge and causeway which the Gandy Bridge Co. plans to construct over Old Tampa Bay connecting the cities of Tampa and St. Petersburg, will, it is stated, make this bridge route but 19 miles long between business centers of the two cities and 24 miles shorter than any existing overland route.

The total length of the bridge and causeway will be 30,390 feet, or a little less than 6 miles, and of this sand-fill causeway will measure 16,900 feet and the bridge 13,490 feet, including a 75-ft. double lift steel draw over the ship channel. The roadway will be 44 feet in the clear and the bridge construction will be of sufficient strength to support a load of 30 tons moving at high speed.

### \$800,000 in Bonds for Hard Surface Roads.

Weston, W. Va., November 16—Freeman's Creek magisterial district of this county, at the recent election, voted \$800,000 bonds to construct 25 miles of hard surfaced roads.

The money from the sale of the bonds will be used to construct roads from Jackson's mill to Freemansburg, from Camden to Fink, from Weston to the Kincheloe bridge and from Alum Bridge to Fink.

### Will Construct Important Highways in Louisiana—Bids to Be Opened Soon.

Baton Rouge, La., November 16—On November 28, the State Highway Commission will open bids for the construction of important links in the state roads. The completion of one of these links will practically finish the Southern National Highway from New Orleans to the Texas line and another connecting New Orleans and Alexandria.

Contracts will be awarded for 19.28 miles of gravel road in Pointe Coupee parish, between Melville and Port Allen. Three miles of this road across the swamp near the Atchafalaya are already under construction. This will complete the Jefferson Highway from New Orleans through Alexandria to Winn parish line. Six miles remain to be constructed in Winn parish and surveys have been made. Jefferson Highway has been completed, or is under construction, except 13 miles in Sabine parish, and surveys will soon be started on this road.

Bids will be opened on November 28, also, for 4.97 miles on the Morgan City-Thibodaux Highway, between Chacahoula and Brule settlements in Terrebonne and Lafourche parishes. This will complete the Southern National Highway from New Orleans through Lake Charles almost to the Texas line. Surveys are being made for the remainder. Bids will be received on clam shell construction on the road between Chacahoula and Brule settlement.

On the same date bids will be received also for the construction of 9.8 miles of gravel road in Franklin parish, between Winnsboro and Rayville on the Natchez-Monroe Highway. Survey of the road between New St. Louis to the Livingston parish line on the Benton Ferry road has been completed and bids will soon be invited.

### Over \$560,000 for Roads in a West Virginia County.

Buckhannon, W. Va., November 14—Warren, Meade and Banks magisterial districts of Upshur County have voted an aggregate of \$284,000 bonds, which will be matched by the State Road Commission, for the construction of a hard surfaced road through Upshur County from the Webster border. Buckhannon district, through which the road will extend, has already constructed a hard surfaced road.

All funds realized from the sale of the bonds will be expended on State roads, the State Highway Commission to have supervision of the work. Nine and one-half miles of the Webster-Barbour road will extend north toward Clarksburg to the Barbour County line. Union district in Barbour County is considering a special bond issue to construct 3½ miles to the Harrison County line. With these plans consummated, the Buckhannon-Clarksburg road would be hard surfaced for 13 miles out of this city, and with 3 miles already improved on the Clarksburg end, would leave but 12 miles unimproved.

### New Smyrna District Will Vote on \$600,000 Bonds.

Daytona, Fla., November 16—The Board of County Commissioners have called a special election in the New Smyrna district, to be held November 19, on \$600,000 road bonds. These bonds would be used to construct 16-foot hard surfaced roads from Rose Bay, on the Dixie Highway, to the north Brevard County line; from New Smyrna to the intersection of the DeLand brick road; from New Smyrna to Osteen ferry; road across the peninsula to Coronado Beach; widen Canal Street in New Smyrna, and a street or road from Oak Hill to Allenhurst.



## NEW \$600,000 BRIDGE OVER MISSOURI RIVER AT BOONVILLE.



Free bridge nearing completion at Boonville, Mo., at a total cost of about \$600,000, of which the U. S. Government appropriated \$250,000 and the citizens remainder; steel construction; Missouri Valley Bridge Co., Leavenworth, Kans., contractor for sub-structure; Mount Vernon Bridge Co., Mount Vernon, Ohio, superstructure; W. J. Cockran & Sons, Boonville, concrete and steel approach on Boonville side of river. Harrington, Howard & Ash, Kansas City, Mo., designed the structure and are supervising construction under the general supervision of engineers of the State Highway Department and Bureau of Public Roads.

### Recommend \$750,000 Road Bond Issue.

Leesburg, Fla., November 18—Citizens of Leesburg and Road District No. 1, after considering detailed information submitted by George Heller, County Engineer, have recommended that the County Commissioners call an election on \$750,000 bonds to construct hard surfaced highways in that section of Lake County.

This amount is deemed necessary to construct 30 miles of brick or asphalt road, provided Federal Aid may be secured for the construction of 19 miles of state road No. 2, passing through the county. The hard surfaced road contemplated will extend from the Marion County line to Grand Island, connecting there with the asphalt road to Umatilla and Eustis, and also with the asphalt road at Tavares.

### Contracts for Road and Bridges Total \$260,000.

Nashville, Tenn., November 16—[Special.]—Contract has been awarded by the State Highway Commission to J. L. Humbar Co. of Knoxville for the construction of 9.80 miles of road, extending from a point near Newport to the North Carolina state line. The road will be 16 feet wide with 8-inch limestone base, the contract price being \$228,057. Bridges on the road, which is a federal-aid project, were awarded separately to Albert Lyons of Rogersville.

The Vincennes Bridge Co. of Vincennes, Ind. has been awarded contract at \$19,876 to construct a state and federal-aid bridge at Lawrenceburg.

### Will Let Road Contracts Aggregating \$4,800,000.

Jefferson City, Mo., November 17—Contracts for the construction of 287.72 miles of road, which will reach a cost around \$4,800,000, will be awarded by the State Highway Commission on December 2.

The construction of these roads is a part of Missouri's \$60,000,000 road building program. They embrace 81 projects, located in 46 counties, and provide mostly for grading and bridging preparatory to hard surfacing. It is stated that 71 miles will be of a superior type of construction, while the greater part of the remainder will be of gravel or better.

### Knott County Votes \$500,000 Road Bonds.

Whitesburg, Ky., November 17—Reports from Hindman state that a bond issue of \$500,000 for roads has been voted in Knott County.

It is the purpose of the county to construct the Whitesburg-Hindman Highway, via Sandlick Creek, six miles having been built last year.

### Notes on Good Roads Construction.

The Service Construction Co. of Poplar Bluff, Mo., has been awarded contract at \$51,610, to grade, construct culverts, bridges and 12-foot gravel pavement on 6½ miles of county road, extending north and south of Bloomfield, Mo.

The State Highway Commission of Tennessee has awarded contract to John L. Humbar Construction Co., Knoxville, at \$136,966, for 4.8 miles of highway in Campbell county between Jacksboro and LaFollette.

Fairfield County, South Carolina, has voted \$500,000 bonds to construct a link of the Charlotte-Columbia Highway.

A bond issue of \$400,000 for the construction of roads in Bell County, has been voted at Middlesboro, Ky.

### Three Casinghead Gasoline Plants to Be Finished Soon—Cost \$750,000.

Pioneer, Texas, Nov. 18—[Special.]—When the three casinghead gasoline plants now under construction here are finished much of the natural gas from the oil wells of this field that is now wasted will be profitably utilized. The plants are being built by the Brown Gasoline Company, the McMan Oil & Gas Company and the National Gasoline Company, and their aggregate cost will be approximately \$750,000, it is stated. They will have a total output of 37,500 gallons of gasoline daily. In addition to these three casinghead plants a 2500 barrel oil refinery is to be built here by the American Oil Company. The capacity of the proposed plant will be increased later on to 5000 barrels a day. The principal offices of this company are in Fort Worth.

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# LUMBER AND BUILDING MATERIALS

## Report on Southern Pine Conditions.

New Orleans, La., November 18—[Special.]—Orders for the week ended November 10, as reported by the Southern Pine Association, reached a total of 70,428,787 feet, or an average of 554,557 feet per mill. The total of shipments was 66,971,333 feet, or an average of 527,333 feet per mill, while the production was 75,436,509 feet, an average per mill of 593,988 feet.

Shipments were 11.22 per cent below production and orders were 6.64 per cent below production. Orders were 5.16 per cent above shipments for the week.

Summary of report from 127 mills:		
	Cars	Feet
Orders on hand beginning of week....	17,049	382,767,099
Orders received during week.....	3,137	70,428,787
Total.....	20,186	453,195,886
Shipments during week.....	2,983	66,971,333
Orders on hand end of week.....	17,203	386,224,553

## Improvement Noted in Lumber Position.

Washington, November 16—According to the National Lumber Manufacturers Association reports from eight regional lumber manufacturing associations for the week ending November 11, the lumber movement shows a rather sharp contrast to that of most recent weeks. Production fell off sharply while shipments increased noticeably and orders gained a little. All three factors were noticeably in excess of the corresponding week of 1921.

Three hundred and ninety-four mills, as compared with a revised total of four hundred and ten for the preceding week, report a production of 229,153,806 feet, being a decrease of 18,999,986 feet. Shipments were 199,405,351 feet, a gain of 15,576,953, while orders, at 205,315,006, showed a gain of 3,143,579. Shipments for these mills were 87 per cent and orders 90 per cent of production, being a noticeable gain of shipments and orders on production, as compared with recent weeks. Of the 410 mills, 365 are in associations having established figures of normal production. For the past week this figure is 231,070,046 and relative to it actual production was 97 per cent, shipments 81 per cent and orders 84 per cent.

The figures for the lumber movement for the past week, the preceding week and the corresponding week for last year are as follows:

Mills	Past Week 410	Corresponding Week, 1921 383	Preceding Week 394
Production .....	229,153,806	174,364,944	248,153,792
Shipments .....	199,405,351	180,022,087	183,828,398
Orders .....	205,315,006	177,892,637	202,171,427

For the 45 weeks of the year ending November 11, as compared with the corresponding period of 1921 the figures are:

	Production	Shipments	Orders
1922 .....	9,905,227,749	9,333,993,794	9,933,464,442
1921 .....	7,087,560,976	7,175,382,648	7,424,188,624
1922 Increase ...	2,817,666,773	2,158,611,146	2,509,275,818

The following table gives the figures by regional associations:

LUMBER MOVEMENT FOR 45 WEEKS, AND FOR THE WEEK ENDING NOVEMBER 11.									
	Production		Shipments		Orders				
	1922	1921	1922	1921	1922	1921			
Southern Pine Association, Total.....	3,317,423,071	3,134,952,078	3,181,856,478	3,318,334,193	3,334,436,795	3,340,484,165			
Week (127 mills).....	75,436,509	73,371,294	66,971,333	78,792,948	70,428,787	67,518,192			
West Coast Lumbermen's Association, Total...	3,802,556,259	2,368,827,963	3,535,130,795	2,456,263,548	3,598,272,174	2,509,953,095			
Week (143 mills).....	93,790,103	64,815,747	82,954,345	57,325,488	88,766,219	61,891,222			
Western Pine Manufacturers Association, Total	1,066,216,000	652,782,082	1,065,853,000	630,925,728	1,096,625,000	642,075,000			
Week (37 mills).....	27,231,000	14,057,000	13,451,000	19,912,000	18,400,000	22,475,000			
California White and Sugar Pine Mfrs., Total	452,450,000	291,183,000	299,542,000	214,686,000	666,945,000	379,168,000			
Week (4 mills).....	3,926,000	3,242,000	2,601,000	3,900,000	1,483,000	2,600,000			
California Redwood Association, Total.....	356,841,000	257,546,000	314,262,000	181,848,000	336,295,000	184,604,000			
Week (15 mills).....	10,080,000	7,505,000	7,844,000	5,522,000	9,520,000	8,968,000			
North Carolina Pine Association, Total.....	428,649,853	294,177,853	441,760,999	285,419,179	420,902,473	288,194,364			
Week (43 mills).....	11,800,000	8,802,903	15,400,000	11,287,653	7,800,000	11,885,223			
Northern Hemlock and Hardwood, Total.....	90,464,000	88,092,000	126,375,000	87,906,000	114,769,000	79,910,000			
Week (16 mills).....	1,427,000	1,211,000	1,957,000	3,282,000	1,525,000	2,555,000			
Northern Pine Manufacturers Assn., Total....	390,627,566	5,463,194	369,218,592	8,228,073	365,216,000	7,392,000			
Week (9 mills).....	9,905,227,749	7,087,560,976	9,333,993,794	7,175,382,648	9,993,464,442	7,424,188,624			
General Total for 45 weeks.....	229,153,806	174,364,944	199,405,351	180,022,087	205,315,006	177,892,637			

## Building Continues Increase Throughout Country.

"Expenditures for building for the month of October, 1922, totaled \$204,260,134, as against \$197,626,498 for the identical cities in September," says Bradstreet's reporting on 161 out of 164 cities, "and a total of \$168,536,555 for the same list of cities in October a year ago. The slight gain, 3.3 per cent, shown over September this year is important as showing that building operations or preparations continue at a high rate for the season of the year, while the gain of 21.1 per cent shown over October a year ago, itself a very heavy total, is apparent evidence that the demand for new housing has not as yet been satisfied. It is also to be noted that only two groups of cities, the western and southern, show decreases from September, while all groups show gains over October a year ago.

"Following will be found the usual summary by groups for October and September this year, with percentages of increase or decrease noted.

	Oct. 1922		Sept. 1922		Compared with Oct. 1921		Sept. 1922	
	1922	1921	1922	1921	1921	1922	1921	1922
New England ..	\$12,043,147	\$10,888,118	I 41.8	I 10.6				
Middle .....	75,315,841	73,639,526	I 1.8	I 2.2				
Western .....	25,324,548	32,566,259	I 51.1	D 22.2				
Northwestern.....	27,061,353	23,480,903	I 29.9	I 15.2				
Southwestern ..	14,026,133	10,885,734	I 27.5	I 29.7				
Southern .....	19,652,255	20,331,038	I 49.2	D 3.3				
Far-western .....	30,836,857	25,814,920	I 26.7	I 19.4				
Total, U. S. ....	204,260,134	197,626,498	I 21.1	I 3.3				
Canada .....	6,733,691	7,542,895	I 16.2	D 10.7				

"The total of building for ten months is found to be \$2,063,046,463, a gain of 55.2 per cent over the corresponding period of 1921, itself a record year. The gain indicated for 1922 over 1921, if maintained in the present month and December and applied to last year's total at 164 cities, would seem to point to a total expenditure in 1922 for house, office or store construction of fully \$2,515,000,000."

## To Distribute House-Plan Book in Europe.

According to information received by the Southern Pine Association of New Orleans, the Association's house-plan book "Modern Homes" is soon to be reprinted in France and distributed throughout Europe by the French Society of Garden Cities, of which Mr. Benoit-Levy is director.

The reprint will be edited by Mr. Benoit-Levy and will be issued under the title of "Small Homes," the text to be in French. Cuts of homes and floor plans shown in "Modern Homes" have been loaned by the Association.

## North Carolina Pine Men Meet December 14.

Norfolk, Va., November 10—[Special.]—The next meeting of the North Carolina Pine Association will be held on December 14, at the Monticello Hotel, in Norfolk.

Important details relating to standardization, inspection and cost accounting will be discussed.

## To Combat White Pine Blister Rust, Which Has Now Reached British Columbia.

Washington, November 18—[Special.]—The National Lumber Manufacturers' Association and the Forest Service have received verification of the appearance of the white pine blister rust in the British Columbia portion of the western white pine forest, where it is said timber worth \$228,000,000 on the stump is menaced.

For the purpose of combating the spread of this disease, a conference of timber owners, government officials and others has been called to meet at Portland, Ore., November 22-23. The annual meeting of the Western Forestry and Conservation Association will be held in Portland the same week, so that the attendance will probably be large and representative.

The white pine regions of Idaho, which contain 19,305,000,000 feet, are thought to be in immediate danger of infection, and if the rust attacks these forests it is considered almost certain that other commercially important species will be attacked also.

The blister rust, which does not affect any but the five-needle pines, is not transmitted directly from tree to tree, but uses currant and gooseberry bushes as intermediaries.

## Building Construction Outlook Reviewed.

Washington, November 16—[Special.]—In a statement reviewing the building situation and outlook, Wilson Compton, secretary-manager of the National Lumber Manufacturers Association, taking Washington as an example, states that building costs have increased 30 per cent since the spring. This is largely due, he says, to high labor costs, as the demand for skilled labor in the building trades has far exceeded the number of men available. It is stated that \$15 a day is quite customary for masons, bricklayers and plasterers, with carpenters receiving less. On some building projects in New York, as high as \$30 a day has been paid for skilled labor, the review says.

Mr. Compton thinks that the fundamental demand for building materials still maintains and with ups and downs, that it will continue for several years. He looks for a strong demand for lumber and says the comparatively greater labor costs of installing other materials is definitely encouraging the use of lumber in many large communities where it is admitted under the ordinances.

## Orders Rise Above Shipments.

Norfolk, Va., November 17—[Special.]—For the week ended November 11, the North Carolina Pine Association reports orders for 12,665,032 feet, or an average per mill of 253,306 feet. Shipments amounted to 11,308,084 feet, or an average per mill of 226,161 feet. As compared with last week, these figures show an increase in orders of 4,754,852 feet and a decrease in shipments of 3,308,928 feet.

Production showed an average per mill of 230,238 feet or a total of 11,511,928 feet, a decrease of 284,885 feet from last week.

### Summary of 50 mills reporting:

	Total Feet	Average Feet Per Mill
Orders.....	12,665,032	253,306
Shipments.....	11,308,084	226,161
Production.....	11,511,928	230,238
Normal production.....	13,542,000	270,840
Orders above shipments.....	1,356,948	12
Orders above actual production.....	1,153,104	10
Shipments below actual production.....	223,020	1
Orders below normal production.....	886,968	7
Shipments below normal production.....	2,234,000	16
Actual production below normal.....	2,030,072	15
Increase in orders compared with last week.....	4,864,852	62

Louisiana's yield of sugar this season is estimated at 283,000 short tons by the agricultural statistician of the United States Department of Agriculture stationed at New Orleans. The production in 1921 was 324,431 hort tons.

# MECHANICAL

## Dragline Excavator.

A new dragline excavator which embodies in its design and construction sundry features long desired by engineers and contractors has been brought out by the Austin Machinery Corporation of Chicago and is known as their No. 12. It is of the full revolving type and is mounted on two multipedals. A six cylinder, heavy duty type, gasoline motor supplies 250 horsepower at 425 revolutions per minute, or more than ample to drive the machine under all conditions. If desired semi-Diesel engines can be substituted. An air compressor and storage tank, the former operated through a direct connection to the main motor, supply the power for the air rams which control the drag and hoist drums, the swinging mechanism of the machine and an air starter for the main motor.

Since a machine of this type is operated continuously day and night, powerful electric lights are installed so that excavating work can proceed without interruption and the extra large multipedals upon which the machine is mounted provide for the unusually large bearing pressure of 1150 pounds per square foot, which is sufficient to enable it to travel under its own power over very soft surfaces without



THE EXCAVATOR AT WORK IN THE FIELD.

the use of mattresses or other artificial supports. The standard equipment is a 2½ yard Page bucket and a 60 foot boom. Longer booms and smaller buckets, or shorter booms and larger buckets, can be furnished.

This machine, on account of its adaptability for swamp excavation is now giving excellent service on reclamation work in Florida. It is extremely mobile, having a low speed forward of half a mile an hour or high speed of three quarters of a mile an hour. The wide-faced multipedals enable it to travel quickly over the Everglades without miring. The machine is very fast in operation and records of 2400 yards in 10 hours are reported. An electric fan is provided on machines going into hot sections of the country, this attachment being useful not only to cool the machine operator but to blow away mosquitoes.

The Hardwood Manufacturers' Institute of Memphis, Tenn., announces the appointment of Roy H. Jones as assistant to J. M. Pritchard, Secretary-Manager. Mr. Jones is a practical lumberman and has been connected with the Department of Commerce in Washington as assistant to the Chief of the Lumber Division, Bureau of Foreign and Domestic Commerce.



# Construction Department

## EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

## DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

### Bridges, Culverts and Viaducts.

Ala., Opelika—For full details see Mch. Wanted—Road and Bridge Construction.

Ark., Van Buren — Crawford County Quorum Court, plans expending \$7000 to build bridge north of Mountainburg.

Fla., St. Petersburg—W. D. McAdoo, 1132 Central Ave., plans constructing causeway from southwest end of St. Petersburg Beach Ave. to St. Petersburg Beach, through Pasadena; extend 3100 ft. to northeast end of Carolina Ave.; concrete slab wall construction, filled with sand; construct bridge on concrete piling and caps with wooden and concrete decking; 50-ft. span draw bridge; jack-knife lift construction.

Fla., Tampa—Gandy Bridge Co., plans building concrete toll bridge and causeway over Old Tampa Bay, connecting Tampa and St. Petersburg; 13,490 ft. reinforced concrete bridge, including 75-ft. double lift steel draw, over main ship channel; 16,900 ft. sand-fill causeway; total length about 5½ mi.; 44-ft. roadway; Geo. S. Gandy, interested.

Miss., Gholson—Noxubee County Board of Suprs., Macon, Miss., will build wooden bridge. For full details see Mch. Wanted—Bridge Construction.

Miss., Natchez—Adams County, Board of Suprs., will build 4 bridges—For full details see Mch. Wanted—Bridge Construction.

Miss., Vicksburg—Warren County, Board of Suprs., let contract to Nashville Bridge Co., Nashville, Tenn., at \$41,727.24 for swing-span bridge over Big Black River, at Hankinson's Ferry; to Newsom Bros. & Miles, Goss, Miss., at \$33,515, for crescented trestle work.

Missouri—State Highway Dept., Jefferson City, Mo., will construct 8 approach fills to bridges. For full details see Mch. Wanted—Bridge Approach Construction.

Missouri—State Highway Dept., Jefferson City, Mo., will receive bids until Dec. 2 for following bridges:

Atchison County, 300-ft. steel bridge on State road from Fairfax toward Tarkio.

Livingston County, 3 steel and 1 concrete bridge near Chillicothe.

Pulaski County, 560-ft. steel bridge near Hooker.

Mo., Charleston—State Highway Dept., Jefferson City, Mo. For full details see Mch. Wanted—Bridge Construction.

Mo., Lexington—State Highway Dept., Jefferson City, Mo. For full details see Mch. Wanted—Bridge Construction.

Mo., St. Louis—For full details see Water Works.

Tenn., Lawrenceburg—State Highway Dept., Nashville, Tenn., let contract to Vincennes Bridge Co., Vincennes, Ind., at \$19,786, for reinforced concrete and steel bridge; Federal Aid Proj.

Tenn., Newport — State Highway Dept., Nashville, Tenn., let contract to Albert Lyons,

Rogersville, Tenn., at \$10,525, to build 2 bridges on road between Newport and North Carolina State line; Cocke County, Federal Aid Proj. No. 23. (Lately noted).

Tex., Fort Worth—Tarrant County Comms. Court, Hugh L. Small, County Judge, let contracts to J. D. Fawkes as follows:

Little Fossil Creek bridge on State Highway No. 40, at \$5113.88.

Walnut Creek bridge, on State Highway No. 34, at \$15,726.86.

To J. F. Hamer, at \$27,066, for Mary's Creek bridge, on State Highway No. 10. (Lately noted).

Tex., Glen Rose—Somervell County will build 2 concrete and steel bridges. For full details see Mch. Wanted—Bridge Construction.

Va., Graham—Town let contract to Federal Asphalt Paving Co., to complete bridge across Beaver Pond; asphalt. Address The Mayor.

### Canning and Packing Plants.

Fla., Sebring—Sebring Citrus Growers' Association, W. L. Crews, Mgr., purchased land, will construct \$40,000 addition to canning plant.

Miss., Biloxi—North Biloxi Improvement Assn. contemplates erection of canning plant.

### Clayworking Plants.

Okla., Oklahoma City—Brick—Kenyon Brick and Tile Co., A. W. Kenyon, Pres., 2700 W. Tenth St., will construct additional units to increase capacity of plant to 40,000 brick daily; later plan installing mch. for mfrc. face brick, face tile and pottery, increasing capacity to 100,000 bricks daily. (Previously noted).

### Coal Mines and Coke Ovens.

Ky., Madisonville—Galloway Coal Co., incorporated by W. R. Raymer, B. M. Plain, and H. D. Coward.

Ky., Sergeant—Wright-Craft Coal Co., organized by S. T. Wright, and A. C. Craft; develop coal lands on Millstone creek.

Ky., Twila—Crech Coal Co., organized with R. W. Crech, Pres.; Jas. Henderson, Secy. (Lately noted inceptd., capital \$25,000.)

Ky., Whitesburg—Gloglera Coal Co., reported to enlarge holdings, erect tippie, 50 miners houses, church, school, etc.

Va., Graham—Baldwin-Pocahontas Coal Co., J. W. Baldwin, Pres., and Gen. Mgr. has acquired property of Davy-Pocahontas Coal Co.; will repair and develop.

Va., Wytheville—Stoney Fork Coal Corp., capital \$100,000, inceptd. with J. F. Johnston, Pres.; W. C. Stone, Secy.-Treas.

W. Va., Barbour County—Howard Smokeless Coal Co., Daniel Howard, Pres., Clarksburg, W. Va. purchased plant of Bryer Coal Co., at Bryer Tugart Junction, begin additional development, increasing daily output.

W. Va., Bluefield—Best Coal Co., capital

\$50,000, inceptd. by W. A. Reese, J. E. Griffiths and G. F. Brown, all Charleston, W. Va.

W. Va., Huntington—Acme-Eagle Coal Co., capital \$25,000, inceptd. by W. E. Deegans, J. M. Turner and J. F. Grimet.

W. Va., Lost Creek—Vulcan Coal Co., John Quinn, Supt., has under construction \$100,000 improvements, including bucket coal conveyors, lay ½ mi. railroad tract, etc.

W. Va., McMechen—McMechen Coal Co., capital \$10,000, inceptd. by C. W. Caldaugh, C. D. Marple and J. F. Young.

W. Va., Morgantown—Superior Block Coal Co. capital \$50,000, inceptd. by Harold S. Smith, Harold G. Hodges and Donald G. Lazelle; acquired 200 acres coal land, will develop.

W. Va., Morgantown—Shriver Coal Co., Col. Everhart Bier, Pres. purchased 900 acres of coal land in addition to present holdings of 350 acres; improve tippie and other equipment to increase output from 400 to 750 tons daily; increased capital to \$600,000; Edward Bier, Supt.

W. Va., Mount Clare—Consolidated Gas Coal Co., John Y. Hite, Treas., Fairmont, W. Va., leased several acres coal land from Rodgers Bros., Clarksburg; will develop.

### Cotton Compresses and Gins.

Ky., Barlow—John Atkins interested in installing cotton gin.

### Drainage Systems.

Mo., Foley—Foley Drainage Dist., For full details see Machinery Wanted—Pumping Station.

### Electric Light and Power Plants

Fla., Jacksonville—King's Road Electric Light Line, inceptd. with Albert Klein, Pres.; J. R. McKinley, Secy.; all of South Jacksonville.

Fla., Sanford—Bright Light & Power Co., capital \$100,000, inceptd. by Kate McIver, I. E. Melver, L. P. Campbell.

Fla., Sanford—For full details see Miscellaneous Construction.

Fla., Sebring—City has completed plans for purchase of electric plant owned by Sebring Light and Water Co. Address The Mayor.

Fla., Starke—For full details see Water Works.

Ga., Atlanta—For full details see Land Developments.

Mo., Fulton—For full details see Water Works.

Mo., Rich Hill—City appointed Arthur L. Mullergreen, Kansas City, as consulting engineer for improvements to city's utility plant and other buildings. (Lately noted).

Mo., St. Louis—For full details see Water Works.

N. C., Whitville—City will install electric light plant and water works system; voted \$80,000 bonds. (Lately noted).

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

S. C., Ridgeway—For full details see Machinery Wanted—Water, Sewerage and Electric Construction.

Tenn., Knoxville—For full details see Land Developments.

Tex., Laredo—R. W. Morrison granted permit by Federal Power Comsn. to construct power dam in Rio Grande river, develop about 5000 H. P.

### Flour, Feed and Meal Mills.

Ky., Louisville—American Hominy Co. of Chicago, contemplates purchasing plant of Wathen Milling Co.

Ky., Louisville—Gold Proof Milling Co. will construct \$50,000 fireproof grain storage building.

Tex., Corpus Christi—Frank Kell of Wichita Falls, Tex., will construct grain elevator.

W. Va., Wheeling—Gold Star Feed Co., capital \$10,000, inceptd. by A. C. Myers, W. T. Hicks, Harry E. Myers.

### Foundry and Machine Plants.

Ala., Bessemer—Nashville Bridge Co., Nashville, Tenn., have completed arrangements for removing part of its shops, equip with heavy mchy. for structural work; boat and bridge departments remaining in Nashville.

Md., Baltimore—Power Jack & Accessories Co., 105 Pleasant St., capital \$30,000, inceptd. by William C. Robinson, Henry L. Duer and Jesse Slingluff.

Okla., Weleetka—Machine Shop—Colonial Supply Co., Henryetta, Okla., will establish machine shop and supply house on Main St.

Tex., Ft. Worth—Comet Petroleum Co., capital \$250,000, inceptd. by F. J. Holmes Chester Holmes, W. A. Hanger.

Tex., Houston—Sampson Machinery & Supply Co., capital \$30,000, inceptd. by Abe Sampson, Max Leon and M. C. Warner.

Tex., Lufkin—Williams Machine & Supply Co. increased capital to \$400,000.

Tex., Somerset—Rock Cliff Oil Co., capital \$50,000, inceptd. by S. B. Hindman, J. S. and H. A. Suttle.

Tex., Texas City—LaMarque Co., capital \$50,000, inceptd. by A. L. Bogatto, W. J. Stoner, H. J. Andrus.

Tex., Wichita Falls—Victory Petroleum Co., inceptd. by G. G. Golden, F. W. Fischer, S. I. Carter.

Va., Nansemond, mail Beamon.—Tractors, etc.—G. D. Graveley, Richmond, Va., interested in erection of plant for mfr. of cultivators, tractors, etc.

### Gas and Oil Enterprises.

Ala., Birmingham—Alabama By-Products Co. applied for permit to construct gas main 4 mi. long, 12-in. in diam.; supply gas for industrial purposes.

Ark., Eldorado—Allday Oil Corp., capital \$250,000, inceptd. by D. H., M. L. and R. E. Allday.

Fla., Tampa—Impertal Oil Co., A. Murray Allen, Gen. Mgr., 6006 Branch Ave., lately noted inceptd. with \$100,000 capital, will construct buildings, 30x84, 30x12, 30x20 ft.; cost \$5000; install tank, 10 ft. dia.-10 ft. deep, 5000 gal. capacity. See Mchy. Wanted—Tanks.

Ga., Atlanta—For full details See Land Developments.

La., Alexandria—For full details See Mchy. Wanted—Natural Gas Distribution System.

La., Shreveport—Moffitt-Murphy Oil Co., capital \$1,300,000, inceptd. by John W. Moffitt, C. W. Murphy, and others.

Md., Easton—City votes Dec. 14 on \$17,000 bonds, \$11,000 of which is to be used

for purchase of plant and \$6000 for improvements. Address The Mayor. (Lately noted).

Mo., Kansas City—Midland Refining Co., capital \$164,200, inceptd. by W. I. Osborne, W. G. Skelly, G. W. Gray.

N. C., Kinston—Joseph Dawson interested in establishment of gas plant.

Tenn., Memphis—F. B. Odum of New York, acquired properties and franchises of Memphis Gas & Electric Co.; will improve.

Tenn., Memphis—For full details see Electric Light and Power Plants.

Tex., Bartlett—Bartlett Oil Co., inceptd. by J. M. Allen, E. M. Wilson and Robert Rowntree.

Tex., Beaumont—High Island Development Co., capital \$100,000, inceptd. by H. W. Gilbert, M. J. Ebberts, W. C. Gilbert.

Tex., Cisco—Edward Kippaz, of Phila., Pa., L. H. Christman, of Dallas, Tex., and others acquired refinery of Liberty Oil Refining Co.; will increase capacity to 3000 bbls. crude oil daily.

Tex., Dallas—Magnolia Petroleum Co., W. C. Proctor, Treas., contemplates increasing capital to \$180,000,000.

Tex., Fort Worth—Brazos Gasoline Co., capital \$75,000, inceptd. by Charles E. Smith, M. W. Potts, R. R. Wilson.

Tex., Fort Worth—Thurber Pipe Line Co., capital \$250,000, inceptd. by John Hancock, C. L. Ratcliff and W. B. Powell.

Tex., Graham—Bertrand Gas Production Co., capital \$1,000,000, inceptd. by D. A. Bertrand, J. M. Dullahan, both Graham; Bailey W. Hardy, Breckenridge, Tex.

Tex., Henderson—Attoyac Oil Co., capital \$25,000, inceptd. by O. S. Rogers, R. T. Forman, A. C. Wylie.

Tex., Houston—Commercial Oil & Refining Co., capital \$50,000, inceptd. by J. D. Flewelen, E. M. McGlynn and J. F. Curtis.

Tex., Houston—Oil Developers Co., capital \$300,000, inceptd. by W. E. Hawley, N. H. Smith and B. F. Winborn.

Tex., Kosse—Kosse Oil Producing Corp., capital \$150,000, inceptd. by John M. McGrevey, E. C. Mend and J. B. Alford.

Tex., Pioneer—American Oil Co., T. J. Ryan, Prest., Tulsa, Okla., will construct refinery; first unit to be completed by Dec. 15 will be of 2500 bbl. capacity; ultimate capacity 5000 bbl.

Fla., Tampa—Florida Holding Co., capital \$10,000, inceptd. with C. G. Cantrell, Prest.; R. C. McKeand, Vice-Prest.

Fla., Tampa—Peninsular Holding Co., capital \$10,000, inceptd. with C. G. Cantrell, Prest.; R. C. McKeand, Vice-Prest.; A. Blair Ballard, Secy.

Tex., Wichita Falls—Kentucky Oil Corp., capital \$50,000, inceptd. by H. G. Lewis, C. G. Smith and H. A. Bishop.

W. Va., Bluefield—Association Coal & Gas Co., W. B. Snidow, Pembroke, Va., Treas.-Secy., reported to extend and develop gas and oil holdings in Kentucky; will construct pipe line from field to Bluefield, passing through Fleming, Jenkins, Pound Gap, Clintwood, Grundy, Coalwood, Gary, Welch, Bramwell, Pocahontas and Graham, also mfr. gasoline, carbon black and by-products.

W. Va., Huntington—Montague—Texas Oil Co., capital \$25,000, inceptd. by J. H. Meek, Z. T. Vinson and J. M. Rigg.

W. Va., Lester—Allen Oil Co., capital \$40,000, inceptd. by T. J. Williams, of Lester, S. H. Honaker and G. D. French both of Huntington, W. Va.

### Ice and Cold-Storage Plants.

Ala., Montgomery—Atlantic Ice & Coal

Corp., let contract to C. D. Bayley & Co., Atlanta, Ga. to erect ice and cold storage plant; daily output 150 tons; estimated cost \$300,000. (Lately noted).

Ark., Little Rock—Guy W. Caron, purchased 50x150-ft. building on the Little Rock—Hot Springs Highway, will establish 25 ton ice manufacturing plant and 1000 ton surplus ice storage; also plans installing pasteurization and bottling plant.

Ark., North Little Rock—Crystal Ice Co., I. O. Runyan, Prest., let contract to Moody Engineering Co., 90 West St., New York to erect ice storage house, concrete, steel and cork construction; main storage will be piped with over a mile of piping, to keep vault many degrees below freezing point; volume of vault will be 151,000 cu. ft. capacity will be 6,000,000 lbs.

Md., Baltimore—Lexington Refrigeration & Storage Corp., J. F. Brinley, Prest., authorized to construct boxing, pipes, manholes and other appurtenances to carry refrigeration from its plant 516 W. Lexington St. to the market; estimated cost \$325,000; ordinance referred to Board of Estimates.

Mo., Kansas City—Hammond Car Iceing Co., capital \$100,000, inceptd. by J. R. and L. L. Hammond, J. J. Clark.

Md., Princess Anne—Princess Anne Ice Co., capital \$200,000, inceptd. by Wilmer O. Lankford, Sr., Wilmer O. Lankford, Jr., and Roland L. Stacey.

Okla., Ardmore—Consumers Light & Power Co. plans constructing cold storage house, capacity 6000 tons; approx. cost \$100,000.

Okla., Duncan—W. E. Scheurer and others, Taylorsville, Ill., will establish ice plant.

S. C., Greenville—Greenville Ice & Refrigerating Co., T. E. Keith, Prest.; has plant with daily capacity of 25 tons ice and refrigeration of 25,000 cu. ft.; install two 15 ton units, electrically driven; bids open. (Supersees recent item.)

Tex., Caddo—Caddo Ice, Light & Power Co., capital \$30,000, inceptd. by Peter and S. T. Swenson, O. C. Goodwin.

### Iron and Steel Plants.

W. Va., Parkersburg—Blackwood Electric Steel Corp., capital \$150,000; chartered by Thomas Logan, C. T. Hiteshew and C. H. Kibby.

### Land Development.

Ala., Tuscaloosa—For full details see Miscellaneous Construction.

Ark., Blytheville—E. A. Stacy, purchased 1700 acres land, part of which is under cultivation; will develop entire plantation, build 100 tenant houses, etc.

Fla.—John Nolen, Landscape Archt. and City Planner, Harvard Sq., Cambridge, Mass., will develop plans for establishing Clewiston an industrial town on 1500 acres on southern shore of Lake Okechobee, nr. Moore Haven; surrounding city will be area devoted to farming.

Fla., Bradentown—Bradentown Home Builders' Corp., capital \$50,000, inceptd. with B. W. Williams, Prest.; R. M. Sheetz, V. P.; John T. Campbell, Secy.-Treas.

Fla., Bradentown—For full details see Road and Street Construction.

Fla., Clearwater—Island Growers, capital \$5000, inceptd. with H. D. Stewart, Prest.; Henry Hall, V. P.; R. E. Kurtz, Secy.-Treas.

Fla., Ft. Pierce—James O. Craig, Prest., Chicago Business Men's Clearing House Assn., Chicago, and others interested in development of 120,000 acres land in fig and pecan culture.

Fla., Ft. Pierce—Prof. C. A. Scott of

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Kansas State Agricultural College, Manhattan, Kansas, interested in development of large acreage for nurseries.

Fla., Lakeland—Callahan Groves Corp., capital \$200,000, chartered with F. H. Callahan, Pres.; E. L. Mack, Secy.-Treas.

Fla., Orlando—Joe Tinker, F. E. Baxter and others interested in development of baseball park and athletic park.

Fla., Orlando—City, Mayor Duckworth interested in development of park and playground.

Fla., St. Petersburg—Lakewood Development Co., capital \$200,000, inctpd. with Wm. H. MacIlroy, Pres., Asbury Park, N. J.; James R. Bussey, V. P.; Frank H. Custer, Secy.-Treas., both of St. Petersburg.

Fla., Sanford—For full details see Miscellaneous Construction.

Fla., Stuart—Oak Park Realty & Development Co., capital \$24,500, inctpd. by Warner H. Aspinwall, Pres.; John N. Dunham, Secy.

Fla., Tallahassee—City interested in development of golf course. Address City Comsn.

Ga., Atlanta—Charles Hopkins of Real Estate Dept. of Trust Co. of Georgia, interested in development of 75 acres for subdivision, will install water, lights, sewers, gas, construct streets, plant trees and ornamental shrubbery, etc.

Ky., Covington—Kenton Development Co., 606 Capping Bldg., organized with Wm. H. Hopenjams, Pres.; Jno. H. Loebker, Secy.; will develop 120 acres for residential section. (Lately noted inctpd., capital \$100,000).

Ky., Frankfort—Bourbon Country Club, capital \$25,000, inctpd. by Buckner Woodford, Catesby Spears, C. K. Thomas.

Ky., Louisville—Basham-Coffey Realty Co., capital \$15,000, inctpd. by Thos. E. Bashman, Evan G. Coffey.

Md., Baltimore—Commercial Realty Corp., 1321 E. North Ave., capital \$100,000, inctpd. by Christian Volz, Wm. L. Geddes, Frederick W. Brockman.

Md., Baltimore—Maryland Real Estate Co., 617 Equitable Bldg., capital \$50,000, inctpd. by Joseph T. England, Geo. P. Lucas, Frank W. Petticord.

Md., Baltimore—Greene Street Realty Corp., 9 N. Howard St., capital \$100,000, chartered by Alexander S. Katzenberg, Berney Katzenberg, Emanuel E. Ottenheimer.

Md., Catonsville, P. O. Baltimore, Md.—Catonsville Realty Co., capital \$100,000, incorporated by Arthur R. Wood, Emile R. Mohler and Walter B. Lang.

Md., Woodside, mail Silver Springs—Woodside Development Co., Charles W. Hopkins, Pres., have acquired 185 acres land, will develop into residential park.

Mo., Carthage—Mutual System Realty & Investment Co., capital \$75,000, inctpd. by James Luke, S. C. Boggess and Thomas Hackney.

Mo., Eureka—Commercial Club interested in development of golf course at Eureka Springs.

Mo., St. Louis—For full details see Water Works.

N. C., Shelby—J. F. Ware, Asheville, will develop 25 acres for subdivision; construct sewer and water system, etc.

S. C., Columbia—Holley Realty Co., capital \$15,000, inctpd. with R. L. Hollowell, Pres.; J. F. Bailey, V. P.; Alan Smith, Secy.-Treas.

S. C., Cross Hill—H. H. Fuller will double present orchard of 15 acres.

S. C., Laurens—B. W. and Mark Hellams will develop additional peach orchard of 5 acres.

S. C., Laurens—S. J. Craig has 30 acres of peach orchard under development, will plant 15 additional acres.

S. C., Waterloo—Rex Lanford will develop 30 additional acres in peach orchard.

N. C., Winston Salem—Westover Park Golf Club, capital \$25,000, inctpd. by K. S. Shore, Fuller Conrad, E. V. Turner.

S. C., Spartanburg—R. H. Rutherford, City Landscape Artist, planning sunken gardens, summer houses, etc. at parks.

Tenn., Columbia—For full details see Motor Cars, Garages, Tires, etc.

Tenn., Harriman—Peachland Orchard Co., capital \$25,000, inctpd. by C. P. Adams, N. Giles Carter, J. F. Evans.

Tenn., Knoxville—C. H. McClean and associates will develop 300 acres for homesite, construct streets, sidewalks, electric lights, water and sewer systems.

Tex., Dallas—Richland Pecan Corp., capital \$151,000, inctpd. by J. M. Baldrige, J. A. Evans, G. M. Gibson.

Tex., Dallas—City, Sawnie R. Alredge, Mayor, interested in development of golf course.

Tex., Dallas—Forest Lawn Co., capital \$50,000, inctpd. by E. E. Widner, W. R. Sparkman and L. B. Millam.

Tex., Sulphur Springs—F. C. Pennington Produce Co., capital \$10,000, inctpd. by F. C. Pennington, J. A. Dial, E. L. Ashcroft.

W. Va., Mineral County—Dr. E. P. Mertz, William A. Hill and others, Washington, D. C., purchased 550 acres of Knobley Mountain Orchards; has 29,000 apple trees and 2000 peach trees; plan improving property; C. R. Miller, Mgr.

### Lumber Manufacturing.

Ala., Montgomery—Marks & Betty Lumber Co., capital \$25,000, inctpd. with Dr. Chas. L. Marks, Pres.; Stafford Betty, V. P. and Mgr.; Ellen M. Betty, Secy.

Tenn., Chattanooga—Williams & Voris Lumber Co., S. A. Williams, Mgr. are erecting 2 units to present plant, install mchy. for mfr. of hardwood flooring; estimated cost of building and equipment \$150,000.

Tex., Houston—McGranahan Lumber Co., capital \$50,000, inctpd. by J. M. McGranahan, T. W. Hopkins and W. A. Parish.

### Metal-Working Plants.

Ky., Louisville—Porcelain—Standard Sanitary Mfg. Co., Pittsburgh, Pa., reported to erect plant additions, approx. cost from \$300,000 to \$500,000; acquired 7 acres land.

Md., Baltimore—Gas Stove Tops—Baltimore Smooth-Top Co., 211 W. Saratoga St., inctpd. by Myer Miller, Joseph M. Lazarus and Carrie L. Park; mfr. tops for gas stoves.

Md., Baltimore—Welding Service Corp., 2700 Boston St., capital \$25,000, inctpd. by Albert Lorch, Frank L. Druliner and Wm. L. Emich.

Md., Baltimore—Tacks, etc.—Holland Mfg. Co., Central Ave. and Bank St., plans erecting plant addition; contemplates building early part of coming year. (See Machinery Wanted—Lumber.)

Mo., St. Louis—Grimm Metal Sign Corp., capital \$50,000, chartered by H. A. Grimm, W. S. Faires and Hans Tandberg.

Mo., St. Louis—Electric Supplies, etc.—Peerless Light Co. of Missouri, capital \$54,670, inctpd. by H. L. Crown, W. R. Smith and A. H. Forbes.

Mo., St. Louis—Refrigerators—Gustav J. Gruendler Mfg. Co., Clifford F. Boyer, Secy. leased 4 story building at 814 N. Broadway, will remodel.

N. C., Kinston—Soda Fountain—Chamber of Commerce interested in establishing company to mfr. new-style soda fountain.

W. Va.—Sheet Metal—Griffith, Rodas & Co., Geo. M. Griffith, Mgr., (lately noted increased capital) will after Jan. 1 install additional mchy. for mfr. of sheet metal products, including skylights, gutters, blow pipe systems, etc. (See Machinery Wanted—Metal (Sheet) Working Machinery.)

### Mining.

Ala., Florence—Asphalt—Alabama Mineral Co., organized with C. W. Ashcraft, Pres.-Mgr., Florence; Tyler Calhoun, Secy.-Treas., Nashville, Tenn.; develop asphalt rock.

Fla., Ocala—Sand—Lake Weir Crystal Sand Co., capital \$25,000, inctpd. with Nathan Mayo, Pres.; Bempsey B. Mayo, Secy.

Ky., Salem—Zinc & Spar Co., capital \$150,000, inctpd. by D. G. Hearne, C. H. Copp and Edward Hazlett, all Wheeling, W. Va.

Mo., Kansas City—Platinum, etc.—Kansas City Platinum Mining & Smelting Co., capital \$100,000, inctpd. by Byron H. Coon, Peter J. Murphy and Jos. R. Lasson.

Tenn., Dayton—U. S. Bureau of Mines, Tennessee Dept. of Mines and Cumberland Iron & Coal Co. jointly, will establish mine rescue station; plans completed; W. H. Matthews, V. P. of Dayton Coal & Iron Co. has charge of rescue apparatus.

Tex., Fort Worth—Fort Worth Sand & Gravel Co., capital \$200,000, inctpd. by R. M. Quigley, H. P. Bonner and J. C. Hart.

Tex., Orla—Sulphur—Texas Sulphur Co., Orange, Tex., reorganized with Charles F. Suderman, Pres., Galveston; J. T. McGill, Secy., Beaumont; contemplates resuming sulphur mining.

Tex., Rockdale—Lignite—Southwestern Securities Corp., subsidiary of McAlester Coal Co., McAlester, Okla. is rebuilding plant, re-constructing about 6 mi. railroad track connecting the mines with San Antonio & Arkansas Pass R. R. using about 10,000 new cross ties; has 1400 acres land for lignite development.

Tex., Victoria—Sand and Gravel—Victoria Sand & Gravel has under construction plant for development of sand and gravel pits.

Va., Salem—Copper, etc.—Nortenga Copper & Chemical Corp., capital \$300,000, chartered with L. C. Stewart, Salem, Va.; Edw. S. Hamilton, Elbert, W. Va. and others.

### Miscellaneous Construction.

Ala., Tuscaloosa—W. L. Pounds, Owner and Promoter for swimming pool and park; has plans for construction of two large dams, 1000 lin. ft. of concrete canal reaching from 12 large springs at head of Hargrove creek to new lake, develop woodland park; costing about \$10,000; contemplate expending \$35,000 on project within next five years; C. M. Ayres, Engr. in charge.

Fla., Bradentown—Pier and Waterfront—For full details see Road and Street Construction.

Fla., Jacksonville—Pier, etc.—City Comsn. let contract to J. A. Kidd for construction of piling and bulkheading for pier No. 3 at municipal docks and terminals; pier will be 425 ft. south of pier No. 2, 1000 ft. long and 350 feet wide; closed warehouse, 810x100 ft., is to be built on one side of pier and open transit sheds on the other. (Lately noted).

Fla., Sanford—Waterfront Improvements—City let contract to Lakefront Improvement Development Co. to secure rights, holdings, etc. on waterfront from Park to Palmetto Ave.; City Comsn. plans constructing modern boat basin extending 570 ft. into Lake Mon-



roe; develop parks from Park Ave. to lake front beautifying locality for yacht harbor, install white way from 1st St. to Lake, also repave necessary section; funds are available from previous bond issue.

Fla., West Palm Beach—Dikes, etc.—W. J. Connors let contract to Otis A. Hardin to construct drainage work, build dikes and irrigation ditches to protect vegetable plantation; has 10,000 acres land in Everglades part of it fronting Lake Okeechobee. (Lately noted.)

Mo., Columbia—Incinerator—City contemplates erecting \$20,000 incinerator plant. Address The Mayor.

Tex., Corpus Christi—Port Development—City will build wharfage and terminal facilities, voted \$1,000,000 bonds; this amount combined with \$2,000,000 which the state of Texas appropriated for constructing sea walls and breakwater and \$1,394,800 which the Government appropriated for digging 21 mi. channel, 25 ft. deep and 200 ft. wide extending from deep water at Port Aransas to Corpus Christi, making Corpus Christi deep water port. (Lately noted.)

Tex., Waco — Incinerator — City Comsn. opened bids for construction of incinerator; bidders are: Superior Garbage Incinerator Co., Dallas, Tex. and Jones Odorless Garbage Crematory Co., St. Louis, Mo. (Bids lately noted.)

Va., Norfolk—Terminals, etc.—Scott-Terminal Corp., R. T. Lipscombe, Secy., 121 Bank St., will develop terminals on waterfront site in Newton Park, has frontage of 500 ft., runs back about 1000 ft.; following are list of bidders: Raymond Concrete Pile Co., Nichols & Lindeman, Sanford & Brooks, Carpenter & Perrie, H. W. Watts Co., E. W. Minter & Co., M. A. Long Co., Empire Engineering Co., N. P. Converse Co., and Ferro concrete Construction Co. (Previously noted.)

W. Va., Morgantown—Incinerator — City will construct incinerator, purchased 10 acre site. Address The Mayor.

### Miscellaneous Enterprises.

Ala., Mobile—Fire Department Equipment—For full details see Water Works.

Ark., Little Rock—Pasteurization and Bottling Plant—For full details see Ice and Cold-Storage Plants.

D. C., Washington—Goodman Light Supply Co., capital \$50,000, inceptd. by Nathan and Wm. P. Goodman, Gus B. Salomon.

Fla., Mount Dora—Publishing—Mount Dora Publishing Co., capital \$25,000, inceptd. with W. E. MacWhorter, Prest.; Edith Ediburn, Secy.

Fla., Tampa—Shenandoah Apartments, Inc., capital \$100,000, inceptd. with C. H. Pfuntner, Prest.; C. W. Horn, Secy.

Fla., Tampa — Hardware — Houlihan-Robbins Co., capital \$10,000, inceptd. with G. M. Houlihan, Prest.; B. D. Robbins, Secy.-Treas.

Fla., Trilby—Printing—Bible Baptist Publishing Co., (lately noted inceptd.) organized with O. N. Williams, Prest.; E. L. Gientline, Secy.-Treas. and Mgr.; rented building; install printing mch. for commercial printing, etc. (See Machinery Wanted—Printing Machinery.)

Fla., Winter Park—Publishing — Winter Park Publishing Co., R. R. Doble, Secy.-Mgr.; let contract to James Wellman to erect building, install mch. for newspaper, job printing, etc. (Lately noted inceptd.)

Ga., Athens—Laundry — Athens Steam Laundry Co. contemplates expending from \$3000 to \$4000 on installation of additional mch., including collar machine, extractor, mangle, etc.; has plans for separate overall dept., capable of laundering from 600 to 1000 prs. weekly.

Ga., Augusta—Bon Air Vanderbilt Motor Livery Co., capital \$50,000 inceptd. by N. N. Teague, Thomas Barrett, Jr. and others.

Ky., Frankfort—Hinde-Baker Co., capital \$50,000, inceptd. by R. A. Baker, A. C. Thompson and J. R. Barrett.

Ky., Jackson—Construction—W. D. Harris Co., capital \$10,000, inceptd. by W. D., H. H. and Lamar Harris.

Ky., Louisville—Revista Publishing Co., increased capital to \$50,000.

Ky., Paducah—Yellow Cab Co., capital \$20,000, inceptd. by Charles Q. C. and Robert L. Leigh, Cecil Reed.

La., New Orleans—Dairy—Cloverland Dairy Products Co., Geo. A. Villere, Mgr., 3625 Tulane Ave., (lately noted to expend \$200,000 on plant improvements) will open bids sometime in Jan. for plant extensions; Favrot & Livaudais, Archts., Hibernia Bank Bldg.

Md., Baltimore—Contracting—Davis, Reilly Co., 902 W. 36th St., capital \$30,000, inceptd. by James H. Reilly, Milton C. and Henry S. Davis.

Md., Baltimore—Contracting—Atlas Construction Co., 339 Courtland St., inceptd. by David Cason, John R. Forsythe and J. Mabury Lawrence.

Md., Baltimore—Contractors—Wise Construction Co., 2618 E. Baltimore St., capital \$50,000, inceptd. by Howard Brown, Abraham and Sarah Wise.

Md., Baltimore—Fairlawn Construction Co., 216 St. Paul St., capital \$20,000, inceptd. by Wm. L. Nealls, Robert R. Portness and Edwin L. Knapp.

Md., Baltimore—Advertising—Green-Lucas Co., 103 South St., capital \$100,000, inceptd. by Harry B. Green, E. Lyell Gunts and Horace K. Dugdale. (Continue existing business.)

Md., Baltimore—Construction—Lewis Construction Co., 600 Equitable Bldg., capital \$50,000, inceptd. by James S. Lewis, George Breitenbag and George F. Whiting.

Mo., St. Louis—Engraving—Ecker & Co., capital \$50,000, inceptd. by W. J. Ecker, Jr., Philip T. Heen and Katherine M. Fromang.

Mo., St. Louis—Conveying Equipment—Benjamin H. Alvey Corp., inceptd. by B. H. Alvey, Wm. H. Smith and J. G. McKelvey.

Mo., St. Louis—Engraving—Harrison Co., Inc., capital \$28,000, chartered by Edgar Harrison, Virginia B. Carrio and others.

Mo., St. Louis—Fire Department Equipment—For full details see Water Works.

Mo., St. Louis—Illmo Amusement Co., capital \$20,000, inceptd. by Floyd Lewis, R. B. Dickson and Louis Wagner.

Mo., St. Louis—Red Top Taxicab Co., capital \$10,000, inceptd. by F. J. Murphy, Roy Merinbaum and J. J. Hagan.

Mo., Trenton—Cox Poultry Co., capital \$8000, inceptd. by E. M. Weston, J. L. Lunsford.

Mo., Valley Park—Layton Construction Co., capital \$19,000, inceptd. by B. Layton, W. D. Randall and H. Rauch.

N. C., Salisbury—Dixie Seed Co., capital \$20,000, inceptd. by L. H. Gardner, Dewey Earnhardt and Edward Horah.

N. C., Warsaw—Duplin Construction Co., capital \$100,000, inceptd. by E. W. Jordan, Neill MacQueen and J. A. Moore.

S. C., Charleston—Construction—Lillard-Laurens Co., capital \$25,000, inceptd. with G. L. Lillard, Prest.; Andrew Chisolm, Secy.

Tex., Ennis—United Publishing Co., capital \$35,000, inceptd. by G. G. Dunkerley, J. M. Weekly and C. A. Newlin.

Tex., Fort Worth—Construction—Valentic & Tomey, Inc., capital \$50,000, inceptd. by J. Va., Disputanta—Potato Curing—E. C.

Jones, Prince George County, Agt., and K. N. Ellis, Agricultural Agt., interested in establishment of 10,000 bu. capacity sweet potato house.

W. Va., Ronceverte—Gwynn, Lee & Co., capital \$10,000, inceptd. by W. G. Gwynn and W. G. Lee, both Ronceverte; N. K. Lynch, Union, W. Va.

### Miscellaneous Factories.

Ala., Birmingham—Hinds-Wright-Lasseter Cigar Co. and W. G. Patterson Cigar Co. have consolidated.

Fla., Tampa—Sulphur Springs Chemical Co., James Langdon, Prest. will erect factory at

Ky., Harrodsburg—Creamery—Blue Grass Butter Co., lately noted inceptd. with \$25,000 capital, organized with W. N. Brown, Jr., Prest.; Cecil Brown, Secy.; let contract to J. L. Wilson, for construction of building, 70x48 ft.; fireproof.

Ky., Paducah—Cigars—Irvine S. Cobb Cigar Co. let contract to Gus Lockwood, for construction of building at 1501 S. Third St.; daylight type; steel brick, and glass; daily output 25,000 cigars; Herbst & Chastain, plumbing contractors. (Lately noted.)

La., Monroe—Carbon Black—Keystone Carbon Co., acquired site will construct 2 unit carbon plant, with capacity of 5,000,000 cu. ft. of gas daily.

La., New Orleans—Fibre Board—Louisiana Celotex Co., B. G. Dahlberg, Prest.; will construct 2 reinforced concrete units, trebling capacity of present plant; mfr. fibre board from sugar cane after extraction of saccharin, estimated \$1,000,000.

La., New Orleans—Roofing Material, etc.—R. J. Co., capital \$175,000, inceptd. with Roger J. Dorn, Prest.; Rene Dorn, V. P.; C. A. Duchamp, Secy.-Treas.

La., Swartz—Atlas Oil Co. will rebuild burned gasoline extraction plant; cost \$100,000.

Md., Baltimore—Shellac, Paints, etc.—Bon-Lac Corp., 1602 Continental Bldg., capital \$25,000, chartered by James S. Bond, Oliver R. Loomis, W. Fairfield Peterson.

Md., Baltimore — Famco Chocolate and Candy Co., 426 W. Conway St., capital \$30,000, inceptd. by Harry Asbel, Henry Lowenstein, Michael J. Murphy.

Md., Baltimore — Gordon Box Factory, Isaac Gordon, Prest., Hanover St. nr. Conway, will construct 3 story addition to plant; 22x70 ft.; cost of mch. equipment, \$30,000.

Md., Baltimore—Hate—M. S. Levy & Sons, Lombard and Paca Sts. will increase capital to \$2,000,000.

Md., Baltimore—Mastic Floors—Duraflex Co., Continental Bldg., Ralph Bolgiano, Prest., will improve plant at Mount Winans.

Md., Baltimore—Toys—Maxwell Weinstein, North Ave. and First St., purchased plant, mch. and equipment of International Wood and Paper Products Corp., at 117 Calverton Rd. and Lexington Sts.

Mo., Jefferson City—Krausnick & Linder Flower & Feather Co., capital \$15,000, incorporated by Walter Krausnick, R. W. Linder, C. S. Truemper.

Mo., Kansas City—Electric Storage Battery Co., 117-25 S. Belmont St. will construct \$50,000 plant.

Mo., St. Louis—Premier Garment Co., capital \$10,000, inceptd. by Abe Morglous, Sam Gassman, Frieda Dubinsky.

Mo., St. Louis—Window Appliances—Ortleb Mfg. Co., inceptd. by Geo. Ortleb, G. L. Haupt, E. L. Arey.

Mo., Kansas City—Bevuk-Donald Mfg. Co., capital \$25,000, inceptd. by J. F. Donald, R. A. M. and Janice M. Neville.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Mo., St. Louis—Leather—Brauer Mfg. Co. acquired building at 817-19 N. 17th St. will remodel and improve.

Mo., St. Louis—Bakery—Piggly-Wiggly Co. purchased building cor. Walton Ave. and Page Blvd., expending \$15,000 on alterations and improvements, using building for bakery to supply their fifty stores in city.

N. C., Ellenboro—Ellenboro Mfg. Co., capital \$50,000, incptd. by J. L. Jamkirk, C. M. Walker, and J. J. Edwards.

Okla., Blackwell—Straw Board—Commercial Club interested in establishing straw board plant.

S. C., Greenville—Piedmont Paper Co., J. W. Keys, Pres., 116 East McBee Ave. increased capital to \$20,000.

S. C., Spartanburg—Harness, etc.—Andrews Loom, Reed & Harness Works will occupy 4 story, concrete building, to be erected by Isaac Andrews; plans being perfected.

Tenn., Lewisburg—Marshall County Co-operative Creamery Co. let contract to Sanders Bros. & Co. for constructing mfg. plant; brick; 40x80 ft.

Tenn., Memphis—Malone & Bowden Tile & Marble Co., capital \$50,000, incptd. by T. J. Malone, Pres.; R. B. Bowden, V. P.; Louis Scott, Secy.; will construct marble plant at Vance and Southern R. R.

Tex., Abilene—Abilene Paper Co., capital \$15,000, incptd. by O. A. Hale, C. W. Barnes, Lloyd B. McCarthy.

Tex., Dallas—Wafers—Consolidated Wafer Co. of Texas, L. D. Pape, Secy.-Mgr. will occupy building at 2220-22 S. Harwood St. to be constructed by Trinity Construction Co.; 2 story; brick; 75x140 ft.; cost \$100,000.

Tex., Dallas—Candy—Dimitri & Ninich Candy Co., capital \$15,000, incptd. by Martin Weiss, W. R. Goodwin and W. P. Donaldson.

Tex., Electra—Electra Creamery Co., incptd. by Ferd Keller, Jr., T. M. McClendon, Hugo Flasche.

Tex., Fort Worth—Radio-Shine Co., incptd. by F. A. McKee, C. B. McLain and Mrs. Laura V. Perkins.

Tex., Refugio—Refugio Glass Works, capital \$75,000, incptd. by W. M. Stephenson, J. K. Naylor, W. L. Napier.

Tex., San Antonio—Adams Cotton Mfg. Co., capital \$10,000, incptd. by T. A. Adams, J. H. Simon, D. C. Giddings.

Va., Hopewell—P. T. Herndon interested in establishment of cigar mfg. plant.

W. Va., Bluefield—Carbon Black, etc.—For full details See Gas and Oil.

W. Va., Charleston—St. Albans Glass Mfg. Co., capital \$150,000, Louis P. Mauger, Pres., Massillon, Ohio, acquired glass plant, will expend \$25,000 in improvements.

W. Va., Fairmount—Imperial Ice Cream Co., Geo. W. Strong, Pres., will construct plant at Fifth St. and Virginia Ave.; 5 story; brick, steel and concrete; capacity 5000 gals. daily.

Fla., West Palm Beach—Palm Beach Motor Sales Co., capital \$10,000, incptd. with G. C. Gentry, Pres.; Inez H. Smith, Secy.-Treas.

Ga., Dawson—Service Station—J. D. Collier and E. S. Williams leased property fronting 175 ft. on Main St., will establish gasoline and oil service station.

Ky., Louisville—Garage—Roy E. Warner will erect garage at 3rd and Breckinridge Sts., steel and concrete construction; approx. cost between \$125,000 and \$150,000; bids open.

Md., Baltimore—Automobile Accessories—National Taxicab Corp., 844 Equitable Bldg., capital \$25,000, incptd. by George O. Pound, Paul Eisenlohr, Jr., and Charles Becker.

Md., Baltimore—Garage—Wm. J. Meyers, Inc., 1723 N. Charles St., capital \$100,000, incptd. by Wm. Graham, Wm. J. Meyers and Bishop F. Baker.

Md., Baltimore—Automobiles—Martin-Per ry Corp., York, Pa., reported to establish assembling plant at Fallsview and Monument St., building has about 12,000 ft. floor space and is being reconstructed under supervision of H. E. Seyler, Mgr.

Mo., Kansas City—Tires—Stephens Associated Stores Co., capital \$125,000, incptd. by C. F. Stephens, J. H. Smith and W. G. Holt.

Mo., Marionville—Bredouw-McFall Motor Co, incptd. by H. L. Bredouw, Mack McFall and others.

Mo., St. Louis—Automobile Accessories—Schneider Sales Corp., capital \$12,000, incorporated by John F. and Josephine M. Scheider, B. M. Cohen.

### Motor Cars, Garages, Tires, Etc.

Ark., Walnut Ridge—Filling Station—S. E. Spikes let contract to M. D. Boneo to erect filling station, on W. Front St., yellow pressed brick, asbestos roofing; floor space 30x50-ft.; build two double visible gas stations, etc.

Fla., Miami—Garage—J. B. Cozatt will erect public garage; cost \$8700.

Fla., Sebring—Filling Station—Standard Oil Co. purchased site, will erect filling station.

Ky., Frankfort—Automobile Accessories—Hurry-up-Broadway Co., capital \$15,000, incptd. by Robert Gast, F. W. Curran and C. W. McCord.

Mo., Kansas City—Automobiles, etc.—Kansas City Jordon Co., capital \$51,000, incptd. by L. C. Hull, E. C. Meservey and R. H. Field.

Mo., St. Louis—Ford Motor Co., main office Detroit, Mich. has tentative plans for the erection of new assembly plant, main building to be 1 story, 1500 ft. long, 300 ft. wide; auxiliary plants for woodworking and mfre. or parts, (not engine parts); estimated cost \$5,000,000; site not decided upon.

Mo., Springfield—Filling Station—Purity Oil Co. has under construction filling station at Market and W. Walnut Sts.

Mo., Wellston, Sta. St. Louis—Automobile Accessories—Wellston Motor Co., capital \$20,000, incptd. by Willis Brodhead, J. H. Farish and Frank P. Storm.

Okla., Ardmore—Service Station, etc.—Leachman-Johnson Motor Co. has under construction a \$25,000 sales and service building.

Okla., Oklahoma City—Garage—Dept. of Public Works, will erect brick garage at 501 E. Grand St.

Okla., Oklahoma City—Oklahoma Climber Motor Co. increased capital to \$100,000.

S. C., Florence—Garage, etc.—Standard Oil Co., C. R. Younts, local Mgr. reported as planning to erect district distribution plant, including garages, platforms, warehouse, office building, etc. also tanks for gasoline, kerosene and lubricating oils; secured option on 120x300-ft. tract of land on N. Colt St.

Tenn., Athens—Filling Station—Evans Sales Co., W. E. Evans, has under construction an automobile and battery service station.

Tenn., Columbia—Tires—Greenway Auction Co., J. B. Greenway, Mgr., purchased 87 acres land on Culleoka pike; will erect plant for mfre. of automobile tires, approx. cost \$150,000 to \$200,000; will probably develop portion of tract for building purposes. (Lately noted).

Tex., Dallas—American Auto Parts Co., capital \$10,000, incptd. by G. A. Reiseneker, M. Feldman and E. Levy.

Tex., Houston—Union Motors, Inc., capital \$25,000, incptd. by George Pearson, Jr., David M. Picton, Jr. and George C. Walling.

Va., Portsmouth—Garage—L. M. Goodman will erect \$10,000 garage on High St., brick construction; W. P. Crump, Contr.

W. Va., Bluefield—Superior Chevrolet Sales Co., capital \$50,000, incptd. by T. R. Young, Bluefield, H. S. Brown and C. W. Freeman, both Bramwell, W. Va.

W. Va., Clarksburg—Clarksburg Automobile Co., increased capital to \$100,000.

W. Va., Huntington—United Service, Inc., incptd. by D. W. Buckner, Frank Ellington and Harry S. Irons.

W. Va., Huntington—Service Station—Motor Sales Co., E. V. Carter, Prop., will erect 2 story, 100x90-ft., steel and brick building on 12th St., 18,000 sq. ft. floor space; cost \$40,000; install mchry. for all kinds of repair work; let contract within ten days.

W. Va., Logan—Automobile—R. E. Matticks, Inc., capital \$50,000, incptd. with R. E. Matticks, Pres.; Bruce Carroll, Mgr., let contract to Ward & Ward, Logan, to erect 52x197 ft. fireproof automobile building; Meador & Handloser, Archts., Huntington, W. Va.

W. Va., Ridgeway—Automobiles—Phil & Miller, Inc., Contg. Engrs., Wabash Bldg., Pittsburgh, Pa., has plans for the erection of first unit of a \$10,000,000 automobile manufacturing plant; steel and brick construction, 3000 ft. long, costing \$5,000,000; company reported to have acquired 2000 acres land for factory and townsite.

W. Va., Welch—Johnson Motor Co., capital \$25,000, incptd. by W. F. and M. E. Johnson, J. E. Daniel.

### Railway Shops, Terminals, Round-houses, Etc.

Arkansas—St. Louis-Southwestern Ry., Daniel Upthegrove, Pres., St. Louis, Mo., reported as having plans to expend \$2,000,000 on new equipment and improvements within the next three years; among contemplated changes are placing oil locomotives on Pine Bluff-Texas Arkansas run, purchasing 500 box cars, 500 automobile cars, 200 ballast cars, etc.; also additions to Pine Bluff shop.

Tenn., Memphis—Yazoo & Mississippi Valley R. R. Co., A. H. Egan, Gen. Supt. will expend \$20,000 on construction of water tanks, one of 150,000 gal. capacity to be built at Memphis shops and one of 50,000 gal. capacity located at Iowa Ave. to furnish water for switch engines.

### Road and Street Construction.

Alabama—State Highway Comsn., Montgomery, Ala., let contracts to Sam E. Finley, Atlanta, Ga., to surface following:

5.6 mi. road between Huntsville and Gunterville; Marshall County, Federal Aid Proj. No. 40; \$10,000.

6 mi. road between Huntsville and Scottsboro; Jackson County, Federal Aid Proj. No. 46; \$9000. (Lately noted).

Ala., Anniston—City, Mayor Wilkie, will receive bids to lay bitulithic surface on 10th St. between Wilmer and Leighton.

Ala., Auburn—Town—For full details see Mchry. Wanted—Paving.

Ala., Hartsville—J. F. Stewart, Mayor plans street improvement.

Ala., Tuscaloosa—State Highway Dept., Montgomery, Ala., plans following: Paving Birmingham road from University Ave. to foot of Castle Hill; concrete. Pave main thoroughfare through Northport to Byler Road; \$50,000; Northport paying part.

Ala., Opelika—State Highway Comsn., Montgomery, Ala. For full details see Mch. Wanted—Road and Bridge Construction.

Ark., Mountain Home—Baxter County let contract to Moberly Construction Co., Morrilton, Ark., to complete road in Road Dist. No. 1 to Mountain Home; State and Federal aid. Address County Comms.

D. C., Washington—Dist. Comms. received bids to grade Channing St. N. E., from Bladensburg Road to 30th St.; Latimer & Maloney, low bidder.

Florida—State Highway Dept., Tallahassee, Fla., receives bids to surface following: 11.6 mi. Road No. 1, between Lake City and Welborn; Columbia and Suwanee Counties, Proj. No. 504; McDougald Construction Co., Atlanta, Ga., at \$249,890.73 for bituminous macadam; Wm. P. McDonald Construction Co., Orlando, Fla., at \$239,886.95, for bituminous concrete; low bidders.

7.76 mi. road between Vero and Wabasso; St. Lucie County, Federal Aid Proj. No. 36; Maule Paving Co., Ojus, Fla., at \$240,220.87, for bituminous macadam; Wm. P. McDonald Construction Co., Orlando, Fla., at \$276,197.58, for sheet asphalt; low bidders.

10 mi. road between Pensacola and Roberts; Escambia County, Federal Aid Proj. No. 34; J. P. Morgan Paving Co., Jacksonville, Fla., at \$375,734.19 for bituminous macadam; and at \$370,451.19, for sheet asphalt; low bidder.

Fla., Bradentown—City plans various improvements; votes Dec. 19 on following bonds: street improvements, \$52,000; pave Central Ave., \$24,000; water works improvements, \$4,000; municipal pier and waterfront improvements, \$135,000; park improvements \$2,000. Address The Mayor.

Fla., De Land—Volusia County Comms., New Smyrna Road and Bridge Dist., plans following 16-ft. hard surfaced roads: On Dixie Highway from Rose Bay to Brevard County line.

From New Smyrna to intersection of De Land brick road.

From New Smyrna to Osteen Ferry. Across peninsula to Coronado Beach. Widen Canal St. in New Smyrna.

From main Dixie Highway at Oak Hill to Allenhurst; votes Dec. 19 on \$600,000 bonds. (Lately noted.)

Fla., Jacksonville—City. For full details see Mch. Wanted—Paving.

Fla., Port Tampa City—City. For full details see Mch. Wanted—Paving.

Fla., St. Petersburg—For full details see Bridges, Culverts, Viaducts.

Fla., Starke—Bradford County, Board of Bond Trustees, let contract to Boyd & Burnett, Macclenny, Fla., to clear and grub, 9 mi. Brooker road. (Lately noted.)

Fla., Tavares—Lake County, Board of County Comms. For full details see Mch. Wanted—Road Construction.

Fla., West Palm Beach—Palm Beach County Comms., Hector Harris, Chrmn., let contract to S. P. Snyder, at \$9800 for 4 mi. Bon Air Beach road, from Hobe Sound to Ocean front; rolled shell. (Lately noted.)

Ga., Atlanta—For full details see Land Development.

Ga., Brunswick—State Highway Comsn., Atlanta, Ga., will receive bids until Dec. 12 for automobile highway from Brunswick to St. Simon Island.

Ga., Quitman—State Highway Dept., Atlanta, Ga., let contract to Smith & Hall, at \$158,000 for 13 mi. clay-gravel road in Brooks county, leading to Madison, Fla.; this includes all bridges, except one over Piscola Creek

Ky., Hazard—Perry County Fiscal Court, J. A. Smith, County Judge, will build County's share of Kentucky-Virginia Highway; voted \$500,000 bonds. For full details see Mch. Wanted—Road Construction.

Ky., Hindman—Knott County. For full details see Mch. Wanted—Road Construction.

Ky., Hopkinsville—State Highway Comsn., Frankfort, Ky., approved plans for building 9 mi. Gracey road from Hopkinsville to Gracey, connecting with Federal Aid road, crossing Trigg County to Egner's Ferry on Tennessee River; \$211,000; Christian County to pay \$52,800.

La., Gueydan—Town Clk., plans laying 105,000 ft. concrete sidewalks; invites bids.

La., Monroe—For full details see Water Works.

La., Monroe—City. For full details see Mch. Wanted—Paving.

La., Monroe—Ouachita Parish Police Jury, Road Dist. No. 1, C. W. Phillips, Prest., let contracts for following highways:

7.2 mi. Monroe-Jonesboro; to Lambert Construction Co., Alexandria, La.

1½ mi. Horse Shoe Lake; to McGuire Cattle Co., Monroe (Lately noted.)

La., Monroe—Louisiana Highway Comsn., Raymond Bldg., Baton Rouge, La. For full details see Mch. Wanted—Road Construction.

La., Springville—Livingston Parish Police Jury plans hard surfacing 60 mi. dirt road in Dist. No. 3, from Springfield to Poncha-toula, via Springville, Fort Vincent, French Settlement, Maurepas and Clio; voted \$80,000 bonds.

La., Winfield—Winn Parish Police Jury plans building 35 mi. Pershing Highway, completing highway to Alexandria.

Miss., Brookhaven—State Highway Dept., Jackson, Miss., will receive bids until Dec. 4 for State Aid bridges between Brookhaven and McComb; 25,673 lbs. reinforcing steel; 138.5 cu. yds. Class A concrete; H. C. Dietzer, State Highway Engr.

Miss., Cleveland—City let contract to Hornaday Construction Co., Memphis, Tenn., at \$52,000 to pave various streets with asphalt. Address The Mayor.

Miss., Hazlehurst—Copiah County, Board of Supvrs., let contract to B. H. Bass Construction Co., and C. T. Hallas, Engr., both Hazlehurst, at \$3100 per mile, to build 16½-mi. gravel road in Dist. 4.

Missouri—State Highway Dept., Jefferson City, will build 10 roads. For full details see Mch. Wanted—Road Construction.

Missouri—State Highway Dept., Jefferson City, Mo., will build 6 roads. For full details see Mch. Wanted—Road Construction.

Missouri—State Highway Dept., Jefferson City, Mo., will receive bids until Dec. 2, to grade and construct drainage structures on following:

Putnam County, .871 mi. State road from Unionville northward; 16-ft. gravel pavement.

Putnam County, 2.746 mi. State road from Unionville southwestward; 16-ft. gravel pavement.

Clark County, 3.994 mi. State road from Wayland southward.

Miller County, 3.078 mi. State road from Eldon, northward.

Webster County, 2.575 mi. State road from Seymour westward.

Howell County, 4.94 mi. State road from Westplains, southward.

Howell County, 4.985 mi. State road from Westplains, southwestward.

Atchison County, 5 mi. State road from Fairfax toward Tarkio.

Atchison County, 2.4 mi. State road from Fairfax toward Tarkio.

Audrain County, 3.3 mi. State road from Mexico eastward; gravel pavement.

Scotland County, 3.564 mi. State road from Memphis southward; gravel pavement.

Henry County, 5 mi. State road from Pettis County line at Windsor, southwestward; 18-ft. bituminous macadam or 6-in. 18-ft. concrete pavement.

Henry County, 1.35 mi. State road from Pettis County, at Windsor, southwestward; 18-ft. bituminous macadam or 6-in., 18-ft. concrete pavement.

Cole County, 4.855 mi. State road from Jefferson City southwestward toward Eldon. Jackson County, 4 sections, 16 mi. on Sul-A-Bar road eastward from intersection with Blue Ridge road.

Jefferson County, 4.1 mi. State road between Festus and St. Genevieve County line; 16-ft. gravel pavement.

Jefferson County, 4 mi. State road from Festus to St. Genevieve County line; 16-ft. gravel pavement.

Newton County, 5 mi. State road from Neosho southward; 16-ft. gravel pavement.

Christian County, 2.5 mi. State road from Lawrence County line to Billings; 16-ft. bituminous macadam or rock asphalt.

Butler County, 5.322 mi. State road from Poplar Bluff to Fisk; 18-ft. concrete pavement.

Butler County, 4.8 mi. State road from Poplar Bluff to Fisk; 18-ft. concrete pavement.

Caldwell County, 5 mi. State road from Clinton County line to Hamilton; 18-ft. concrete or asphaltic concrete on sledged stone base course.

Caldwell County, 5 mi. State road from Clinton County line to Hamilton; 18-ft. concrete or asphaltic concrete on sledged base course.

Clinton County, 4 mi. State road from Grayson to Clay County line.

Clinton County, 1.6 mi. State road from Grayson to Clay County line.

Harrison County, 4 mi. on State road west of Bethany; 18-ft. asphaltic concrete surfacing, or 18-ft. concrete pavement.

Macon County, 2 mi. State road from Macon south.

Sullivan County, 4.5 mi. State road from Milan east.

Sullivan County, 2.5 mi. State road from Milan to Green City.

Henry County, 1.5 mi. State road from Calhoun northwest.

Johnson County, 4 sections, 18 mi. State road from Warrensburg south.

Montgomery County, 3.5 mi. State road from Danville, east.

Franklin County, 3.5 mi. State road east and west through Beaufort; gravel pavement.

Franklin County, 5 mi. State road from Sullivan to St. Clair.

Franklin County, 2 mi. State road from Sullivan to St. Clair.

St. Charles County, 2 mi. State road between Wentzville and St. Peters.

St. Charles County, 2½ mi. State road between Wentzville and St. Peters.

St. Charles County, 3 mi. State road between Wentzville and St. Peters.

St. Louis County, 5 mi. State road from Franklin County line east; 18-ft. asphaltic concrete on concrete base, or concrete pavement.

Barry County, 5 mi. State road between Monett and Cassville; 16-ft. gravel pavement.

Jasper County, 4.5 mi. State road from Opolis to Asbury; 18-ft. concrete pavement.

Newton County 5 mi. State road from Tip-ton Ford to Neosho. 18-ft. concrete pavement.



Newton County, 2 mi. State road from Tip-ton Ford to Neosho; 18-ft. concrete pavement.

Laclede County, 5 mi. State road from Lebanon north; 16-ft. gravel pavement.

New Madrid County, 3 mi. State road from Rile east, 16-ft. gravel pavement.

For full details see Machinery Wanted—Road Construction.

Missouri—State Highway Dept., Jefferson City, Mo., will build 16 roads. For full details see Mch. Wanted—Road Construction.

Mo., Bloomfield—State Highway Dept., Jefferson City, Mo., let contract to Service Construction Co., Poplar Bluff, Ark., at \$51,610, to grade, construct culverts and bridges and gravel surface 6.046 mi. State road north and south of Bloomfield; Stoddard County, Federal Aid Proj. No. 197-A. (Lately noted).

Mo., Chillicothe—City plans paving 3 blocks of Walnut St. with brick. Address The Mayor.

Mo., Jefferson City—Cole County Court, plans improving Brazito-Tuscumbia road; Missouri State Highway Comsn., appropriated \$75,000.

Mo., Kansas City—City, Board of Public Works, let contracts for following: grade Montgall Ave., 16th St., Askew Ave.; lay concrete gutter on Locust St.; concrete curbing on Kensington Ave., 25th St.; concrete sidewalk on Locust, 57th, 65th, Monroe, 72nd, 68th Sts.; reconstruct sheet asphalt pavement on Summit; plain concrete pavement on 25th, etc.

Mo., St. Louis—For full details see Water Works.

Mo., Tuscumbia—State Highway Dept., Jefferson City, Mo. For full details see Mch. Wanted—Road Construction.

N. C., Burnsville—Chas. R. Hamrick, Mayor, let contract to Angel & Co., at \$20,000 for sidewalk and street improvement; J. E. Ellerbe, Engr. (Lately noted.)

N. C., Hendersonville—Henderson County invites bids for gravel surfacing following: Mount Hebron road, from entrance to and through Laurel Park to top of mountain. From end of city pavement on 5th Ave. to Laurel Park.

Brickton road from Mills Pond Church to Naples road.

6 mi. Green River road.

Paving 5th Ave. from city limits to Park.

N. C., Kenilworth Sta., Biltmore—City plans expending \$50,000 to pave following streets: Wyoming and Kenilworth roads; Craggy Circle, Chiles and Harrison Aves. and Busbee St. Address The Mayor.

N. C., Kinston—Board of Aldermen plans expending about \$6000 to pave Queen and Caswell Sts., to connect with asphalted roads leading from city toward Pink Hill and Jones County; will invite bids.

N. C., Newton—Town. For full details see Mch. Wanted—Paving and Sewer Construction.

S. C., Abbeville—Abbeville County Highway Comsn., let contract to McCalla Bros., Lowndesville, S. C., at \$15,704.38 for 7 mi. top soil road from Lowndesville to Cherokee Ferry, known as Cherokee Road. (Lately noted.)

S. C., Easley—G. W. Allen, Mayor, plans extending street between Public Square and Glenwood Mill; contemplates voting within 30 days on \$80,000 bonds; part for street paving, and part for indebtedness.

S. C., Greenville—City let contract to Cliff Bramlett to extend N. Main St. to city limits. Address The Mayor. (Lately noted.)

S. C., Greer—City plans street paving and water and sewer improvements; contemplates voting on \$65,000 bonds; Howard

Bebe, Engr., Spartansburg, S. C. Address The Mayor.

S. C., Newberry—Newberry County Commrs. For full details see Mch. Wanted—Road Construction.

S. C., Spartanburg—City, Mayor Floyd, plans top-soiling certain streets in Ward 6, near Spartan Mills and Star Hosiery Mills.

S. C., Union—Union County. For full details see Mch. Wanted—Road Construction.

Tenn., Knoxville—For full details see Land Developments.

Tenn., Memphis—City Comsn. let contract to Moreno-Burkman Co., St. Louis, Mo., at \$600,040, to pave S. 3rd, S. 2nd and N. Front Sts.; asphalt.

Tenn., Newport—State Highway Dept., Nashville, Tenn., let contract to J. L. Hubbard Co., Knoxville, Tenn., at \$228,057 for 9.80 mi. 8-in. limestone base road from Newport to North Carolina State line. (Lately noted.)

Tex., Crockett—State Highway Dept., Austin, Tex., approved plans for 7.2 mi. 16-ft. gravel road on State Highway No. 21, Houston County; \$124,083; Nat. Patton, County Judge; G. W. Courter, County Engr.

Tex., Daingerfield—Morris County, J. W. Cason, County Judge, let contract to Standifer & Wood, Royce City, Tex., at \$20,286.34, for 2.81 mi. 16-ft. gravel road on State Highway No. 1, from Naples to Bowie County line; County to furnish gravel surfacing; J. V. Curnutte, County Engr., Sims, Tex. (Lately noted.)

Tex., Dallas—S. R. Aldredge, Mayor, will widen Elm St. from Harwood to Pearl Sts.; Geo. D. Fairtrace, City Engr.

Tex., Fort Worth—Tarrant County Commrs. Court, Hugh L. Small, County Judge, let contract to Purvis & Lowry, at \$19,443.42 for 5½ mi. Randol Mills road, from Albright Bridge to Randol Mills; and to Purvis & Johnson, at \$16,283.31, to construct drainage structures. (Lately noted.)

Tex., Freeport—City invites bids for shell-ing streets. Address The Mayor.

Tex., Kaufman—Kaufman County, W. P. Williams, County Judge, will receive bids in Williams, County Judge, will receive bids until Nov. 28 to grade and construct drainage structures on 20 mi. State Highway No. 15; L. M. Ferlet, County Engr., Terrell, Tex. For full details see Mch. Wanted—Road Construction.

Tex., Kerrville—Building Board of American Legion Memorial Sanatorium, of Texas, Austin, Tex. For full details see Mch. Wanted—Road Construction.

Tenn., Jacksboro—State Highway Comsn., Nashville, Tenn., let contract to John L. Hubbard Construction Co., Knoxville, Tenn., at \$136,966.19, for 4.8 mi. road between Jacksboro and LaFollette; Campbell County, Federal Aid Proj. No. 37.

Tex., Lagrange—Fayette County. For full details see Mch. Wanted—Road Construction.

Tex., Nacogdoches—Nacogdoches County plans completing 68 mi. unfinished roads and building 70 mi. new road; contemplates voting on \$775,000 bonds. Address County Commrs.

Tex., Paris—State Highway Dept., Austin, Tex., approved plans for 1.6 mi. 16-ft. concrete road on State Highway No. 5, Lamar County; \$41,606; W. L. Hutchinson, County Judge; W. M. Foshee, County Engr.

Tex., Pecos—Reeves County will build 2 roads. For full details see Mch. Wanted—Road Construction.

Tex., Richmond—Fort Bend County. For full details see Mch. Wanted—Road Construction.

Tex., San Antonio—Bexar County, Augustus McCloskey, County Judge, plans widening

Freudenberg road to 40-ft. from Greytown road intersection to Wolff road intersection; R. E. Kilmer, Engr.

Tex., Sinton—San Patricio County. For full details see Mch. Wanted—Road Construction.

Tex., Sherman—Grayson County. For full details see Mch. Wanted—Road Construction.

Tex., Tyler—Ch. Engr., U. S. Bureau of Public Roads, Washington, D. C., approved plans for 14.73 mi. 16-ft. gravel bituminous road on Jim Hogg Highway; Smith County, Federal Aid Proj. No. 284; \$252,003; D. R. Pendleton, County Judge; D. K. Caldwell, County Engr.

Tex., Uvalde—Uvalde County. For full details see Mch. Wanted—Road Construction.

Tex., Vernon—Wilbarger County. For full details see Mch. Wanted—Road Construction.

Va., Chatham—Pittsylvania County Board of Suprvs. For full details see Mch. Wanted—Road Construction.

Va., Bristol—State Highway Comsn., Richmond, Va., For full details see Mch. Wanted—Paving.

Va., Graham—City plans street and sidewalk improvements; plans voting in Jan. on \$50,000 bonds. Address The Mayor.

W. Va., Huntington—A. R. Hunt, City Clk., let contracts to grade, curb and pave following:

Court St. from 8th to 9th; brick; to L. J. Gillespie, at \$4,274.04.

2nd St. from 8th to 9th and 5th Ave. from 3rd to 5th Sts., to Duncan and Griffith, at \$4702, and \$9146, respectively. (Lately noted.)

West Virginia—State Road Comsn., Charleston, W. Va., let contracts for grading and draining following:

Berkeley County, 4.24 mi. Martinsburg—Hedgesville road; waterbound macadam; to Bester-Long Co., Hagerstown, Md., at \$98,971.07.

Boone County, 4 mi. Ramage-Madison road; Sterling Construction Co., Akron, Ohio, at \$55,137.28.

Boone County, 1.7 mi. Racine-Pertona road; Nash, Cain & Turman, Huntington, W. Va., at \$33,888.80.

Calhoun County, 11 mi., Grantsville—Arnoldsburg road; Hardman & McKown, Spencer, W. Va., at \$186,864.15.

Clay County, 4.6 mi. Maysel-King road; W. C. Markle & Co., Clay, W. Va., at \$71,259.10.

Gilmer County, 10 mi. Glenville-Normantown road; Keeley Construction Co., Clarksburg, W. Ba., at \$248,125.61.

Grant County, 2.4 mi. Petersburg-Hardy County line; waterbound macadam; L. J. Chandler, Virgilina, Va., at \$62,933.71.

Hampshire County, 8.6 mi. Junction to Hardy County line; L. J. Chandler, Virgilina, Va., at \$110,339.35.

Mason County, 5.5 mi. Henderson-Couch road; gravel surfacing; Coleman Bros., Ashton, W. Va., at \$94,816.40.

Mason County, 9 mi. Point Pleasant-Clifton road; gravel surfacing; Jas. E. Doyle, Huntington, W. Va., at \$103,324.

Mercer County, 6 mi. Simmons-Freeman road; waterbound macadam; G. T. Franklin & Co., Pocahontas, Va.; at \$20,449.

Mineral County, 7.6 mi. Ridgeley-Alaska gravel surfacing; L. J. Chandler, Virgilina, Va., at \$71,661.92.

Nicholas County, 5.7 mi. Summersville—Gilboa road; Lookout Construction Co., Victor, W. Va., at \$67,172.05.

Pocahontas County, 4.23 mi. Buckeye—Mill-point road; Frank Echols, Marlinton, W. Va., at \$42,881.30.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Raleigh County, 4.2 mi. Shady Springs—Flat Top road; bituminous macadam; John E. Dougher & Sons, Union, W. Va., at \$172,642.25.

Raleigh and Wyoming Counties, 4.17 mi. Iroquois-Amigo road; G. T. Franklin & Co., Pocahontas, Va., at \$92,162.62.

Summers County, 4 mi. from end of road to Raleigh County line; P. M. Price, Hinton, W. Va., at \$57,288.33.

Upshur County, 6 mi. Buckhannon-Randolph road; W. H. Rhodes, Elkins, W. Va., at \$70,193.07.

Webster County, 11 mi. Point Mountain-Randolph County line road; Mace Construction Co., Webster Springs, W. Va., at \$99,709.79.

Wayne County, 3.63 mi. Echo-Fleming road; Hatfield Construction Co., Huntington, W. Va., at \$166,980.

Wirt County, 12 mi. Elizabeth-Spencer road; Eberbach Construction Co., Pomeroy, Ohio, at \$253,867.38.

W. Va., Wheeling—Ohio County Board of Comms. For full details see Mch. Wanted—Road Construction.

### Sewer Construction.

Ala., Selma—City opens bids Nov. 27 for construction of sanitary sewers and branches in Improvement Dist. No. 129; W. O. Crisman, City Engr. (Lately noted).

Fla., Bradenton—City will extend sewers; vote Dec. 19 on \$4,000 bonds. Address The Mayor.

Fla., Sanford—For full details see Mch. Wanted Sewers and Sewer Pipe.

Ga., Atlanta—For full details See Land Developments.

La., Monroe—For full details See Water Works.

Mo., Harrisonville—City will construct sewer system, will vote on bonds. Address The Mayor.

Mo., Kansas City—City, Board of Public Works, let contract to Kinlen Construction Co., at \$10,824 for sewer construction in Dist. 465, Div. 5 and to J. P. Thompson, at \$2060 for sewer in Dist. 320, Div. 5.

Mo., St. Louis—For full details See Water Works.

N. C., Newton—For full details see Mch. Wanted—Paving and Sewer Construction.

N. C., Shelby—For full details See Water Works.

Okla., Hominy—City let contract to Klingensmith Construction Co., Drumright, Okla., for construction of sewers.

Okla., Tulsa—City Comsn. let contract to Tibbetts & Pleasant, Inc., at \$600,000 to construct Elm park relief storm sewer. (Bids lately noted.)

S. C., Greer—For full details see Road and Street Construction.

S. C., Ridgeway—For full details see Machinery Wanted—Water, Sewerage and Electric Construction.

Tenn., Bristol—City, Chas. Davis, Engr., will construct sewer system on Seventeenth St. to Shelby St.

Tenn., Knoxville—For full details See Land Developments.

Tex., Harlingen—City, A. Tamm, Mayor, will open bids Dec. 6 for construction of 7 mi. of sanitary sewer, ½ mi. storm sewers, Imhoff tank, 10x37 ft., trickling filter, to be installed by Light and Water Dept. (Lately noted).

W. Va., Clarksburg—For full details see Mch. Wanted—Sewer Construction.

### Telephone Systems.

Fla., Jacksonville—Southern Radio Telegraph Co., C. D. Morris, Delaware, Ohio, contemplates establishing commercial radio station; E. P. Owen, Jr., Secy. of City Comsn. interested.

Ky., Louisville—Louisville Home Telephone Co. reported to erect \$400,000 exchange building. (Previously noted to erect 2 story, 40x 60-ft. building.)

Mo., Moberly—Southwestern Bell Telephone Co., let contract for installing additional facilities and equipment; estimated cost \$20,000.

W. Va., Martinsburg—Chesapeake & Potomac Telephone Co., main office 5 Light St., Baltimore, Md., reported to have deed for transfer of the Cumberland Valley Telephone Co.'s holdings in region south of the Mason and Dixon line.

### Textile Mills.

Ala., Birmingham—C. P. Atwood, Biddleford, Me., reported interested in establishing cotton mill in Alabama.

Ala., Huntsville—Dallas Mfg. Co., G. H. Milliken, Prest., considering increase of capital to \$2,000,000.

Ala., Huntsville—Cotton—Lincoln Mills of Alabama, W. I. Wellman, Secy.-Treas., purchased several acres of land, along Meridianville pike; reported extensive additions will be made.

Md., Baltimore—Southern Embroidery Co., 760 W. Lexington St., is receiving bids for construction of addition to plant; plans by John Freund, Archt., 1307 St. Paul St.

N. C., Concord—Gibson Mfg. Co., will install 190 looms, equipped with individual motors.

N. C., Concord—Kerr Bleaching and Finishing Works will construct warehouse and singeing room.

N. C., Concord—Knitting Yarns—Norcott Mills Co., F. J. Haywood, Secy.-Treas., will build plant addition; install 6000 twister spindles, and additional combing and mercerizing machinery.

N. C., High Point—Hosiery—Robbins Knitting Co., capital \$150,000, organized with C. C. Robbins, Prest.-Treas.; J. E. Millis, V.-P.; S. A. Holleman, Secy.; will erect 2 story 150x 60 ft. brick building; \$25,000; construction by day work; install 135 knitting machines; daily capacity 1000 to 1500 doz. prs. hosiery; \$50,000; electric power. (Lately noted).

N. C., Kannapolis—Cannon Mfg. Co. let contract for construction of filtering plant, will also construct number of dwellings.

N. C., Mt. Airy—Woolen—W. E. Lindsay, acquired Alpine Woolen Mills, will improve, install 40 h. p. boiler and mch. for slasher-cloth, yarn and blankets.

N. C., Roanoke Rapids—Patterson Mills Co. will construct addition; 2 stories; 100x 140 ft.; standard mill construction; install 250 automatic gingham looms; Lockwood, Greene & Co., Engrs., Charlotte, N. C.

N. C., Rockingham—Roberdel Mfg. Co., Mill No. 2, will equip looms with individual motor drive.

N. C., Spindale—Stonemiller Mills Co. will install 250 looms.

S. C., Greenville—Cotton Yarns—American Spinning Co., W. B. Boyd, Secy., plans expending \$15,000 to improve and enlarge picker building; 3-story, 100x30 ft. fireproof building; brick and concrete walls; concrete floor; cast iron pillars.

S. C., Lexington—Hosiery—Corley Bros., plan installing hosiery mill. (See Mch. Wanted—Knitting Machinery.)

S. C., Taylor—Southern Bleachery, capital

\$1,000,000, inceptd. by Wm. H. Bannon, Mansfield, Mass.; Harry R. Stephens, West Point, Ga.; Joseph B. Warne, South Orange, N. J.; will erect plant to handle 1,250,000 yds. of finished products weekly.

Tenn., Chattanooga—Magnolia Silk Mills, capital \$100,000, inceptd. by R. B. Davenport, E. E. Pickard, J. P. Hoskins; will establish plant in Union Trust Bldg. to cone raw material preparing it for use in mfr. of finished silk products; later plans to erect building.

Tenn., Chattanooga—Hosiery—Davenport Hosiery Mills, J. H. Davenport, Jr., Secy., plans increasing capital to \$200,000.

Tex., McKinney—Texas Cotton Mill Co., J. Perry Burrus, Prest., increased capital to \$1,200,000, will double capacity of mill; expend about \$750,000.

### Water Works.

Ala., Centerville—City will install water works system, votes in Dec. on bonds. Address The Mayor.

Ala., Girard—Alabama Water Co. of Birmingham, will probably acquire Girard water works plant; have petitioned Public Service Commsn. for authority to issue \$55,000 bonds, \$15,000 of which will be used in improvements to plant.

Ala., Mobile—City will extend water works system, and improve fire department; will vote on \$400,000 bonds. Address The Mayor.

Fla., Bradenton—For full details see Road and Street Construction.

Fla., Ft. Pierce—City will install soft water system. Address The Mayor.

Fla., Starke—City, C. A. Futch, Mayor, will expend \$36,000 for water and light extension; plans not complete.

Ga., Atlanta—City Water Board will probably let contract to Burford, Hall and Smith, for equipment at water works, consisting of two 30,000,000 gal. pumps for river station at \$67,500 each and one 30,000,000 gal. pump at Hemphill Station, cost \$37,250. (Lately noted).

Ga., Atlanta—For full details See Land Developments.

La., Lafayette—For full details see Mch. Wanted—Water and Power Plant Improvements.

La., Monroe—City contemplating installing water, sewer system and construct streets will probably vote on \$200,000 bonds. Address The Mayor.

Mo., Fulton—City will begin construction on water and light plant; brick boiler house section to be erected first, built by day labor, John P. Huggett, Foreman; Hugo H. Graf, Engr., St. Louis, Mo. (Lately noted.)

Mo., St. Louis—City, W. Frank Carter, Chrmn. Council on Civic Needs, votes Feb. 9 on the following bond issues; establishing, opening and widening streets, \$8,650,000; Union Station Plaza, \$2,600,000; paving, repaving and improving streets, \$5,800,000; city wide electric lighting, \$8,000,000; new court house, \$4,000,000; construction and reconstruction of sewers, \$8,000,000; River Desperes sanitation purposes, \$11,000,000; parks and playgrounds, \$2,500,000; improvements to existing parks and playground, \$1,300,000; aquarium, \$400,000; municipal lighting, heating and mechanical building, \$1,000,000; hospitals and institution, \$4,500,000; municipal auditorium and community center, \$5,000,000; memorial plaza and building, \$6,000,000; fire department purposes, \$772,500; grade crossings and viaducts, \$1,600,000; south approach to municipal bridge, \$1,500,000; east approach, \$1,500,000; armory, \$1,000,000; public markets, \$1,250,000; water works, \$12,000,000. (Lately noted).

Mo., Springfield—Springfield City Water Co., R. L. Pate, Mgr., will construct 10,000-gal. capacity storage reservoir at Fulbright station; plans being completed.

N. C., Shelby—J. F. Ware, Asheville, N. C., let contract for water and sewer system in connection with development of 25-acre subdivision.

N. C., Whitville—For full details see Electric Light and Power Plants.

S. C., Greer—For full details see Road and Street Construction.

S. C., Ridgeway—For full details see Machinery Wanted—Water, Sewerage and Electric Construction.

S. C., Spartanburg—City will install additional water mains. Address The Mayor.

Tenn., Knoxville—For full details See Land Developments.

Tex., Ballinger—City will make water works improvements; has \$65,000 available; J. E. Pirie, City Engr.

Tex., Marlin—City let contract to National Cast Iron & Foundry Co., Birmingham, Ala., at \$28,662 for 562 tons pipe to lay line from new standpipe to the reservoir now under construction. (Bids lately noted.)

Tex., Mesquite—City, John S. Lawrence, Mayor, will install water and sewer system; \$60,000 available.

Tex., San Juan—City let contract at \$20,780 to Gulf Machinery Co., Galveston, Tex. for waterworks plant, will construct 6-in. water main and tank with capacity of 60,000 gals.

Tex., Victoria—For full details see Mch. Wanted—Tower (Water).

Tex., Victoria—For full details see Machinery Wanted—Well Drilling.

Tex., Wylie—City will construct water works system, voted \$50,000 bonds. Address The Mayor. (Lately noted.)

W. Va., Bluefield — For full details See Mch. Wanted—Reservoir Dam.

W. Va., Montcalm—M. C. Wagner will expend \$10,000 on erection of new water plant, capacity 1,000,000 gal. water; (lately noted to construct pipe line from spring to village) lay 2 mi. pipe line; build \$25,000 concrete reservoir at spring, open bids Jan. 1. (See Mch. Wanted—Reservoir.)

W. Va., Wheeling — For full details See Mch. Wanted—Engines and Boilers.

### Woodworking Plant.

Fla., Jacksonville—Millwork, etc.—Jacksonville Builders' Mfg. Co., capital \$30,000, inceptd. with A. H. Inman, Prest.; F. B. Alderice, Secy-Treas.

Mo., St. Louis—Swings, etc. — Flexibuilt Mfg. Co., capital \$25,000, inceptd. by J. J. Stegman, C. F. Barrett and E. E. Harrington.

Mo., St. Louis—Veneer—Litton Veneer Co., Rockford, Ill., B. B. Bertram, local Mgr., has begun construction of 30x80-ft. plant at Nettleton St., building includes boiler room, engine room and steaming tanks.

Mo., St. Louis—Windsor Vehicle Co., capital \$10,000, inceptd. by J. J. Schramm, Conrad Paeben and Alvort Wiebe.

Mo., St. Louis—Office Furniture, etc.—Benderscheid Mfg. Co., capital \$50,000, incorporated by H. J. Benderscheid, L. H. Weitkamp and J. H. Wegmann.

Mo., Webb City—Tables—Stover-Pratt Co., capital \$200,000, organized by Russell Stover and others; mfrs. a special camp table, invented by Clarence E. Marsh.

S. C., Greenville—Shuttles—Shambow Shuttle Co., John Shambow, Prest., Woon-

socket, R. I., will expend \$75,000 on plant extensions, erect 1½ story, 70x300 ft. brick addition; install modern shuttle and spool-making mch., overhead suspension and floor track type conveyor system, etc.; double capacity of plant; plans completed; let contract within 10 days. (Lately noted.)

Tenn., Chattanooga—Millwork, etc.—Fountain City Lumber & Body Co., capital \$25,000, organized with J. R. Brantley, Prest.; N. H. Brown, V. P.; J. V. Brantley, Secy-Treas.; taken over plant of Fountain City Mill & Lumber Co., will enlarge and install mch. for mfr. of mill work, specializing in woodwork for building construction; also manufacturing automobile bodies for trucks and delivery wagons; will move equipment from plant of Brantley Bros. and in connection with new mch. will increase facilities for body making.

Tenn., Kingsport—Furniture—E. W. Dodd and W. H. Taylor interested in organizing \$100,000 company, for mfr. of furniture; erect plant, install motor driven mch. (See Mch. Wanted—Woodworking Machinery.)

Tenn., Nashville—Southern Door & Glass Co., R. R. Patterson, Mgr., 218 2nd St., (lately noted increased capital) purchased 100x140 ft. site, for the present will use buildings, probably erect new plant later; specialize in mfr. of windows and divided doors for bungalows. (See Machinery Wanted—Woodworking Machinery.)

Va., Martinsville—Furniture — American Mfg. Co., capital \$1,000,000, inceptd. with A. D. Witten, Prest.; H. N. Dyer, Secy-Treas.; O. D. Ford, Gen. Mgr.; has site for erection of plant, begin construction first of year.

W. Va., Huntington—Nightrack Mfg. Co., Thos. W. Harvey, Prest.-Mgr. let contract to Wm. Lewis to erect 40x120 ft. building, brick and steel with wood floors; install wood-working mch. for mfr. of nightracks; equipment purchased. (Lately noted.)

### Fire Damage.

Ala., Selma—Dallas Compress, M. Hohenbery & Co., Proprs.; loss \$10,000.

Ark., Conway—Oglesby Feed Co.'s store.

Ark., Pine Bluff—Saenger Theater; loss \$150,000.

Ark., Pine Bluff—Robert W. Trimble's cotton gin, seed house and warehouse; loss \$10,000.

Fla., Eustis—Oklawha Hotel; loss \$100,000. Address The Proprietor.

Ga., Augusta—E. Foster Brigham's residence, "The Hedges," Carolina Hgts.; loss \$30,000.

Ga., Savannah—Meddin Hardware Co.'s store, 116 W. Congress St.; loss \$15,000 to \$20,000.

Ky., Versailles—Jno. N. Camden's cattle barn near Versailles; loss \$25,000.

La., Haynesville—Haynesville Gas Co.'s building; City Hotel; Dixie Theater; loss \$50,000.

La., New Orleans—Machine shop and oil room belonging to United States Army Supply Base; loss \$7000.

La., Winnfield—J. N. Sowers' residence; loss about \$10,000.

Md., Baltimore—Building at 700 Pennsylvania Ave. occupied by Trade Monotype Co. and L. A. Engel Co.; loss not estimated.

Md., Cockeysville—Harry Fisher's store and residence on Beaver Dam Rd., Beaver Dam.

Md., Easton—Harry Evans machine shop; loss \$5000.

Md., McDaniel—Canning house owned by Norman M. Shannahan and others; loss not estimated.

Miss., Armory—T. P. A. Hotel. Address The Proprietor.

Mo., Green Ridge—J. S. Ream & Son's 3 stores.

Mo., Jefferson City—Mrs. L. C. Lohman's residence, 933 Jefferson St.; loss \$12,500.

Mo., Linn—Linn Cake Shop; loss \$10,000.

N. C., Asheville—Southern R. R.'s station, J. S. Lemond, Ch. Engr., Charlotte; Southeastern Express Co.'s building.

N. C., Louisburg—W. T. Person's ice factory, J. A. Timberlake's storage plant; loss not estimated.

N. C., Salisbury—Mrs. T. B. S. Ludwick's cotton gin.

N. C., Spray—C. E. Hubbard's residence; loss \$22,000.

N. C., Winston-Salem—Gilmer Department Store; loss \$10,000.

Okla., Picher—Buffalo Mining Co.'s mill; loss \$100,000.

Okla., Tulsa—Tulsa Mfg. Co.'s plant; loss \$50,000.

S. C., Barnwell—Farmers Ginnery.

S. C., Easley—Easley Oil Mill Co.'s ginning plant; loss \$30,000.

S. C., Greenville—Judson Mill's warehouse.

Tenn., Chattanooga—Continental Machine Works on Missionary Ave.; loss not estimated.

Tenn., Chattanooga—Residences of Dr. V. A. Avakian, Peter McDaniels, Henry Mathews, Thos. Carroll and Robt. Cooper, 46th St., between East Lake car line and Rossville Blvd., loss \$25,000.

Tenn., Nashville—Buildings occupied by Globe Furnishing Co., Maury Cafe and Cash Shoe Store; total loss \$40,000.

Tex., Bonham—G. W. Clayton's gin; loss \$15,000.

Tex., Cumby—Cumby Mercantile & Lumber Co.'s building, \$18,000; Odom & McGuire Co.'s undertaking establishment; D. L. Green's store.

Tex., Ennis—Slayton & Atwood's gin at Trinity Switch; loss \$5000.

Tex., Galveston—Galveston Warehouse Co.'s warehouse; loss \$65,000; O. R. Seagraves, Mgr.

Tex., Houston—Gulf Production Co.'s oil tanks; loss about \$500,000.

Tex., Houston—Colorado Hotel. Address The Proprietor.

Tex., McGregor—Gulf, Colorado & Santa Fe R. R.'s freight warehouse; F. Merritt, Ch. Engr., Galveston.

Va., Bassett—Burchfield Building. Address The Owner.

Va., Bassett—W. W. Smith's store and dwelling; V. H. Dameron, J. C. Hooker, J. F. Eggleston and Mrs. Geo. H. Shumate's dwellings.

Va., Happy Creek—Baptist Church. Address The Pastor.

Va., Richmond—Bell Book & Stationery Co.'s building, 914 E. Main St.; R. O. Bell, Prest.

Va., Wise—Irvin Gilliam's restaurant and boarding house.

W. Va., Charleston—M. E. Church, North. Address The Pastor.

W. Va., Halltown—Halltown Paper Board Co.'s boiler house; loss not estimated.

### Damaged by Explosion.

Mo., Kansas City—Elk Grocery, 2001 E. 18th St., Tony Provino, Propr.; Elk Meat Market, 2603 E. 18th St.; Shoe Repair Shop, 2603½ E. 18th St., Morris Goldstein, Propr.



# BUILDING NEWS

## BUILDINGS PROPOSED

### Apartment Houses.

Ala., Montgomery—L. A. Sanderson and Eugene Hellpern purchased Lamine Apts., 21 Adams St., and will remodel.

La., New Orleans—Standard Housing Co., M. J. Sangassan, Pres., 327 Maison Blanche Annex, will erect 3 frame buildings, Saratoga and Calhoun Sts.; stucco facing; 8 four-room suites each; total \$90,000; probably erect 10-story building, St. Charles Ave. and Calhoun St. (Lately noted in part).

Mo., Kansas City—C. C. White will erect \$25,000 two-family flat building; 2 stories and basement; 40x55 ft.; brick; stone trim; Jas. Denson, Archt., 5 N. La Salle St., Chicago.

Mo., St. Louis—Guild Investment Co., will erect fireproof building, Euclid Ave. and W. Pine Blvd.; \$500,000, including ground; steel; matt brick; terra cotta trim; 2, 3 and 4-room suites; site 115x215 ft.; Weisels-Gerhardt Real Est. Co., Mgrs.

Mo., St. Louis—Industrial Engineering Co., K. E. Schreiber, Pres., Arcade Bldg., will erect \$50,000 building, 5317-19 Devonshire Ave.; 4 suites; 2 stories; brick; owner builds.

Mo., University (Sta. St. Louis).—Robt. Smith, 521 Westgate St., St. Louis, will erect 2-story building, 6647 Washington St.; 29x69.5 ft.; brick; Nolte & Naumann, Archts., Fullerton Bldg., St. Louis; owner builds.

N. C., Charlotte—W. S. Stancill; 20-room building, Brevard and 7th Sts.; 2 stories; frame; 4 suites; \$12,000; L. L. Hunter, Archts.; B. W. Roberts, Contr.

Okla., Muskogee—R. R. Korney will erect 3-story building, 611-15 E. Broadway, East Side; \$30,000; brick; laundry and built-in features; M. T. Harding & Son, Archts.; local material, labor, etc.

Tex., Austin—Forest T. Morgan will erect \$12,000 building, Brazos St., near 9th St.; 2 stories; 4 suites; hollow tile and stucco; Giesecke & Harris, Archts., 408 Littlefield Bldg.

Tex., Dallas—Kean & Crofford Construction Co., has permit to erect \$125,000 building, Gaston Ave. and Peak St.; brick and stucco; Pullman type furniture; E. U. Woerner, Archt.

Tex., Galveston—American Realty Co., Shearn Moody, Vice-Prest. American Nat. Ins. Co., Vice-Prest., will erect \$100,000 building; 3 stories; fireproof; 24 suites, garage and servants' quarters.

Va., Richmond—Davis Bros., Inc., 2510 W. Main St., will erect 3 two-family flats, 2300 block Grove Ave., West End; \$45,000; 2 stories; 24x60 ft.; wood floors; brick foundation; slate and slag roofs; L. Otis Spiers, Archt., 2510 W. Main St.; owner builds; L. M. Cheatham, 12 W. Main St., hot water heat. (Lately noted).

W. Va., Elkins—Elkins Construction Co. will erect 5-story building. (See Bank and Office).

### Association and Fraternal.

Ky., Whitesburg—Gloglora Coal Co., will erect Y. M. C. A. (See Dwellings).

Miss., Clarksdale—Masonic Temple Assn. plans \$30,000 temple; probably let contract Nov. 23. (Lately noted under Miss., Clarksville).

Mo., Kansas City—American Legion plans

building. Address Directors, Chamber of Commerce.

N. C., High Point—Numa F. Reid Lodge No. 344, A. F. & A. M., plans temple; site not selected.

N. C., Kinston—Ancient Free and Accepted Masons plan temple; stores and office space.

Okla., Oklahoma City—Benevolent Protective Order of Elks will erect \$300,000 clubhouse, Third and Harvey Sts. Address Secy.

S. C., Columbia—Knights of Pythias, J. J. Riley, Chancellor Commdr., plan \$300,000 to \$350,000 building; 10 stories.

Tex., Fort Worth—Young Men's Christian Assn. has preliminary plans by Bldg. Bureau, International Comm. Y. M. C. A., 347 Madison Ave., New York, to erect building.

Va., Bristol—Tenneva Lodge No. 67, I. O. O. F., plan to erect hall.

### Bank and Office.

Ark. Ratcliff—Dr. H. A. Harkins will erect \$10,000 office building; 10 rooms; construction begun.

Mo., Louisiana—Mercantile Bank has revised plans for \$100,000 bank and office building; brick and stone.

Mo., St. Louis—Travelers' Protective Assn. of America, T. S. Logan, Natl. Sec'y., St. Louis, plans office building; probably \$500,000.

N. C., Concord—Cabarrus Savings Bank will erect 5-story bank and office bldg., Means and Union Sts.; \$100,000; 39½x100 ft.; fireproof; limestone for first story, pressed brick above; composition roof over concrete; oak floors; steam heat; electric lights; elevators; Willard G. Rogers, Archt., 502 Trust Bldg., Charlotte; bids opened about Jan. 1.

S. C., Greenville—Dr. J. W. Jervey purchased site at Coffee and Church Sts., and will erect private office building; apartment house to be erected on Church St. frontage.

Tenn., Chattanooga—Highland Park Trust & Savings Bank, Dr. J. L. Austin, interested, inceptd. with \$35,000 capital; will erect building in Warner Park vicinity.

Tenn., Memphis—Industrial Bank & Trust Co., R. C. Johnson, Pres., will remodel 3-story brick building, 70 Madison Ave., for bank and offices; \$40,000; stone front; reinforced concrete frame; stone columns and bronze door at entrance; plate glass; marble bank fixtures and vault; tile floors; Jones & Furbringer, Archts.

Tex., New Braunfels—Ditlenger Lime Co. will erect \$30,000 office building; 1 story and basement; 45x90 ft.; fireproof; monolithic concrete construction; Giesecke & Harris, Archts., 408 Littlefield Bldg., Austin.

W. Va., Elkins—Elkins Construction Co. will erect 6-story office building, 4th St. and Davis Ave.; also 5-story apartment house, Davis Ave. near 2nd St.

### Churches.

Ala., Anniston—Sacred Heart Catholic Church, Rev. T. J. Early, Pastor, will erect \$15,000 building to replace burned structure; 11th St. and Quintard Ave.; rough faced brick; slate roof; Gothic type; S. F. Billie, Archt.

Ark., Wabbaseka — Althelmer-Wabbaseka Baptist Church will erect building; W. F. Hardin, Althelmer, Mrs. Geo. Shelby, Wab-

baseka and H. H. Spillyards, Pine Bluff, propose Bldg. Comm.

Fla., Fort Pierce—First Baptist Church will erect hollow tile and stucco building, Orange Ave., Parkway Pl.; 74x70 ft.; 12 Sunday school rooms, etc.; J. N. Sherwood, Archt., Fort Pierce and Tampa. (Lately noted).

Ga., Atlanta — Druid Hills Presbyterian Church will erect buildings, Ponce de Leon Ave. near Highland Ave.; \$100,000; community center with swimming pool, etc. Address The Pastor.

Ga., Milltown—Baptist Church, Rev. W. H. Wages, Pastor, will erect \$15,000 building.

Ky., Paducah—First Christian Church, Rev. U. R. Bell, Pastor, will erect \$16,000 Bible school and recreation building; 2 stories and basement; 40x60 ft.; cement floors and foundation; roof garden; rolling partitions; G. T. Smith, Jr., Archt., 201-02 Trueheart Bldg. (Lately noted).

Ky., Whitesburg—Gloglora Coal Co. will erect church. (See Dwellings).

Mo., Odessa—Baptist Church will erect \$30,000 building; 2 stories and basement; brick; stone trim; J. H. Felt & Co., Archts., 800 Grand Ave. Temple, Kansas City.

Mo., St. Louis—Sidney St. Presbyterian Church, K. F. Wettstone, 2108 Allen Ave., will erect \$80,000 building, Sidney St. and Minnesota St.; M. R. Arhelger, Archt., 2700 Arkansas Ave.

N. C., Greensboro—First Presbyterian Church will erect \$250,000 church building; also construct Sunday school, etc. A. M. Scales is interested.

Okla., Miami—Methodist Church, South, will erect \$40,000 to \$50,000 building. Address The Pastor or Dr. A. D. Ellis, Louisville, Ky., Secy. Church Extension Board, M. E. Church, South.

Tex., Colorado—Presbyterian Church, Rev. W. M. Elliott, Pastor, plans \$40,000 building.

Tex., Houston—Bering Memorial Methodist Church, McKinney and Milan Sts., Rev. C. A. Lehmberg, Pastor, plans to erect church in Cherryhurst or Mandell Place.

Tex., Houston — North Side Methodist Church, C. A. McLendon, Chrmn. Bldg. Comm., will erect \$100,000 building, Loraine and Gane Sts.; brick; auditorium to seat 800; Sunday school, kitchen, etc.; Alfred C. Finn, Archt.

Va., Petersburg—Colonial Heights Baptist Church, Harry L. Sneed, Chrmn. Bldg. Comm., will erect \$35,000 church and Sunday school; former to accommodate 600, latter, 500; brick; concrete foundation; 2 stories; slate roof; plan parsonage on site of present church; Herbert L. Cain, Richmond, probable archt. (Lately noted).

Va., Richmond—Bethel Baptist Church plans temporary building, Monument Ave. and the Boulevard. Address The Pastor, care First Baptist Church.

W. Va., Morgantown—Gilbert-Davis Coal Co. will erect building for Guston Run M. E. Church on improved road along Scott's Run.

### City and County.

Fla., Plant City—City Hall—Board of Public Works, W. H. Durrance, Clk., receives bids until Dec. 1 to erect city hall; \$38,000 bonds available; 2 stories; brick; fire dept. in building; plans and specifications from B. C. Bonfoey, Archt., Tampa. (Previously noted).

Fla., Port Tampa City—Bathhouse — City Council, H. J. Hanks, Mayor, receives bids until Dec. 4 to erect municipal bathhouse; plans and specifications from McElroy Engineering Co., Engrs., Tampa.

Ky., Louisville—Memorial Auditorium—Louisville Memorial Comsn., care Louisville Board of Trade, plans memorial auditorium; \$750,000 bonds voted in addition to \$500,000 available. (Lately noted).

Ky., Ludlow—Fire Dept., etc.—City voted \$40,000 bonds for fire dept. and city buildings. Address The Mayor.

Md., Baltimore—Morgue—Board of Awards, Mayor Wm. F. Broening, Prest., receives bids until Nov. 29 to erect morgue on E. Falls Ave. and Fleet St.; \$50,000; 50x100 ft.; brick and concrete; slate roof; concrete and terrazzo floors; steam heat; electric lights; hollow fireproof and interior tile; metal doors; wire glass; steel sash and trim; ventilators; incinerating and sterilizing plants and laboratory; Geo. R. Callis, Jr., Archt., 611 American Bldg.; drawings and specifications from office J. F. Crowther, Inspector of Buildings, City Hall. (Previously noted).

Miss., Biloxi—Town Hall—North Biloxi Improvement Assn. plans to erect town hall. (See Hotels.)

Miss., Jackson—Auditorium-Armory—City, A. J. Johnson, City Clerk, and Hinds County Board of Supervisors, receive bids until Dec. 8 to erect auditorium-armory building. Congress and Pearl Sts., and for wiring, lighting, plumbing, heating, seating and equipment; 160x160 ft.; concrete foundation; steel frame; concrete doors; composition roof; N. W. Overstreet, Archt.; plans and specifications from City Clk., City Hall, and Clk. Board of Supervisors, County Courthouse, Jackson. (Lately noted).

Mo., St. Louis—Courthouse, etc.—City, Mr. Kiel, Mayor, votes Feb. 9 on \$88,372,500 bonds, including \$4,000,000 for courthouse; \$4,500,000 for hospitals and institutions; \$5,000,000 for municipal auditorium and community center; \$6,000,000 for memorial plaza building; \$772,500 for fire department; \$1,250,000 for public markets.

Mo., Washington—City Hall—Bldg., Comm., Rud. Steinhaus, City Clerk, receives bids until Dec. 1 to erect city hall; 2 stories and basement; brick and steel; 50x70 ft.; semi-fireproof; plans and specifications from Boyer, Baum & Co., Archts., Arcade Bldg., St. Louis, or from Mr. Steinhaus. (Lately noted).

S. C., Spartanburg—Fire Station—City, Jas. M. Zimmerman, Commissioner, plans bungalow type fire station, E. Main St., east of Southern Ry. crossing; 2 fire engines, etc.

Va., Graham—Community House—City, Rev. Edw. Hughes, interested, plans community house.

### Courthouses.

N. C., Winston-Salem—Forsyth County plans courthouse. Address W. M. Hendren, Prest. Forsyth County Bar Assn.

Tex., Memphis—W. A. McIntosh, County Judge, Hall County, receives bids until Dec. 4 to erect fireproof courthouse; separate bids for plumbing, heating and wiring; plans and specifications from C. H. Page & Bro., Archts., Austin.

W. Va., Martinsburg—Berkeley County, Paul H. Martin, Clk., will repair courthouse lately noted damaged by fire at \$14,000 loss; damage to attic above third story; date of opening bids not set.

### Dwellings.

Fla., Miami Beach—J. W. Young, Prest., Hollywood Land & Water Co., will erect \$30,000 dwelling, Hollywood Blvd., east of Hollywood Hotel, Hollywood; concrete; 2 stories; 10 rooms; garage, servants' quarters and barn.

Ky., Staub—Hazard-Jellico Coal Co., will erect 20 miners' houses; contract at once.

Ky., Whitesburg—Gloglora Coal Co. will erect 50 miners' houses, coal tippie, church, school and Y. M. C. A., at Beaver Creek coal fields north of Whitesburg.

La., New Orleans—L. F. & H. Bischof will erect 4 double cottages, St. Ann and Salcedo Sts., \$12,000.

Md., Baltimore—Jonas Herman, Highland Apts., will erect \$10,000 residence, 3118 Greenwood St.; 3 stories; 24x61 ft.; brick.

Md., Baltimore—Lawrence Lewis, 211 N. Calvert St., will erect \$15,000 residence and garage, Lake Ave. near Walnut La.; 2 stories; brick.

Md., Baltimore—City Real Estate Co., 11 E. Fayette St., will erect 8 bungalows, N. W. cor Edmondson and Swan Aves.; 24x28 ft.; 1 story; frame; asphalt slate roof; furnace heat; \$24,000; George Wessel, Archt., 2752 Winchester St.; also 5 one-story frame bungalows, west side Swan Ave., near Edmondson Ave.; \$20,000.

Md., Baltimore—F. A. Deverell, B. & O. Bldg., will erect \$20,000 dwelling, Forest Park; 2½ stories; 36x31 ft.; frame; hardwood floors; stone foundation; slate roof; Kerner incinerator, folding ironing board, dumb waiter; Roy G. Pratt, Archt., 323 N. Charles St.

Md., Baltimore—Welsh Construction Co., 11 E. Fayette St., will erect 4 dwellings, N. W. cor. Wayne Ave. and Auburn Rd.; also 3 dwellings, W. side Wayne Ave. near Auburn Rd.; 1 story; frame; \$30,000.

Md., Baltimore—Sam'l. L. Willard, Coca-Cola Bldg., will erect \$70,000 dwelling, Greenway near Vandover Rd., Guilford; 3 stories; brick; 40x90 ft.; with wing 22x45 ft.; vapor heat; slate roof; 22 rooms and 6 baths; Otto G. Simonson, Inc., Archt., Md. Casualty Tower; bids opened Nov. 22. (Lately noted).

Md., Baltimore—Geo. E. Case, 309 Cedarcroft Rd., will erect \$10,000 cottage, Lake Ave. near Walnut Lane; 2 stories; frame.

Md., Baltimore—Wise Construction Co. will erect 12 dwellings, S. E. cor. Forest Park and Kent Aves.; \$50,000; 2 stories; brick; Stanislaus Russell, Archt., 11 E. Lexington St.

Md., Baltimore—Wm. J. Heckman, 2113 Greenmount Ave., will erect 8 dwellings, east side Montebello Ave., south of Cokesbury Ave.; also 8 dwellings, S. W. side Cokesbury Ave., northwest of 23rd St.; \$50,000; 2 stories; brick; 17.4x26.10 ft.; slag roofs; furnace heat; plans and construction by owner. (Lately noted).

Mo., Jefferson City—H. B. Church, Jr., Prest., Church Realty Co., and Fritz Schott, 124 E. High St., purchased 6-acre tract at Jackson and Dunklin Sts.; will subdivide into 25 or 30 lots and erect dwellings; Mr. Schott will erect \$7000 dwelling; 2 stories; 7 rooms; stucco over brick; hardwood floors, composition shingle, slate or tile roof; rock foundation. (Lately noted).

Mo., Kansas City—H. H. Harris will erect two \$5000 dwellings, 5806-5810 Charlotte St.

Mo., Kansas City—Fletcher Cowherd, Jr., will erect five \$2000 dwellings, 5501-05-41-45-47 Garfield Ave.

Mo., Kansas City—Zurn Building Co. will erect eight \$4000 dwellings, 5815-29 Holmes St.

Mo., Kansas City—Viola G. Smith will erect \$10,000 dwelling, 6907 S. Benton St.

Mo., Kansas City—College Hill Development Co., 422 Ridge Bldg., will erect four dwellings, 2210-16 Garfield St.; 1 story and basement; 25x35 ft.; frame and stucco;

shingle roofs; pine floors; furnace heat, \$3500 each; day labor.

Mo., Kansas City—H. E. Wight, 5106 Forest St., will erect 2 dwellings, 5100-04 Forest St.; 1 story and basement; frame and stucco; shingle roofs; oak floors; electric lights; hot water heat; \$8000 each; day labor.

Mo., St. Louis—H. Koberman, 3203 Itaska Ave., will erect 5 dwellings, 2674-78 Rosa Ave., 3706-10 Tholoan Ave., and 4728 Bonita Ave.; 1½ stories and basement; 25x30 ft., 25x26 ft., and 25x29 ft.; brick; A. Koberman, Archt., 5203 Itaska Ave.; owner builds.

Mo., St. Louis—Mrs. J. C. Muckerman, 4956 Moffitt Pl., will erect \$35,000 dwelling and garage, Wytown and Clayton Aves., Moorlands subdivision; 2½ stories; semi-fireproof; brick; Barnett, Haynes & Barnett, Archts., Century Bldg.

Mo., St. Louis—Theo. R. Samuels, V. P. Samuels Shoe Mfg. Co., 915 Switzer Ave., will erect \$50,000 dwelling and garage, Lindell Dr. and Skinker Rd.; 2½ stories; 45x75 ft.; brick and stone; semi-fireproof; T. P. Barnett Co., Archt., Arcade Bldg.

Mo., St. Louis—L. L. Schaffer, 4850 Northland Ave., will erect \$10,000 dwelling and garage, 4975 Northland Ave.; 2 stories; 24x47 ft.; brick; stone trim; A. F. Stauder, Archt., Pontiac Bldg.

Mo., St. Louis—Albert P. Stock, 5 S. Euclid Ave., will erect \$15,000 dwelling and garage, Hillcrest; 2 stories; 37x30 ft.; stone trim; J. W. Leigh, Archt., Ry. Exchange Bldg.

Mo., St. Louis—Dr. J. M. Trigg, care Archt., will erect \$16,000 dwelling and garage, Northland and Euclid Aves.; 2 stories and basement; 34x46 ft.; brick; J. D. Paulus, Archt.-Contr., 4729 Northland Ave.

Mo., St. Louis—George Wanstrath, Jr., 4029A Fair Ave., will erect \$25,000 dwelling and garage, Normandy Park, St. Louis County; 1½ stories; 60x50 ft.; brick; stone trim; Wedemeyer & Nelson, Archts., Wainwright Bldg.

Mo., University (Sta. St. Louis)—Chas. W. Wall, 7016 Westmoreland Dr., will erect \$20,000 dwelling and garage, 7006 Maryland Terrace; brick; 2 stories; Chas. H. Wray, Archt., Rialta Bldg., St. Louis; day labor.

Mo., Webster Groves—J. A. Buchta, Treas., Bartlesville Supply Co., 113 S. Gore Ave., will erect \$19,000 dwelling and garage, Sherwood Forest; 2 stories; 49x31 ft.; brick and stucco; stone trim; J. W. Leigh, Archt., Ry. Exchange Bldg., St. Louis.

Mo., West Plains—E. M. Herring will erect residence on Webster Ave.

Mo., West Plains—Southern Methodist Church will erect residence on Webster Ave. for Presiding Elder. Address The Pastor.

N. C., Asheville—Ronald Greene prepared plans for 6 dwellings on Colonial Hgts. near Grace; about \$75,000; 6 to 8 rooms.

N. C., Concord—C. A. Cannon, Prest., Cannon Mills, is reported to erect dwelling, N. Union St.

N. C., Concord—L. T. Hartsell will erect \$15,000 dwelling.

N. C., Concord—Mrs. Richmond Reed will erect dwelling, N. Union St.

N. C., Concord—Dr. W. H. Wadsworth will erect \$10,000 dwelling; brick veneer.

N. C., Greensboro—Park Place Methodist Church plans parsonage adjoining church, N. Elm St. Address The Pastor.

S. C., Woodruff—Woodruff Mills, Aug. W. Smith, Prest., Greenville, let contract to erect 25 employees' houses; considering erecting additional ones later.

Tex., San Antonio—B. H. Zuber will erect 2-story dwelling, West Over Rd. and Torcedo Dr., Alamo Hgts.; stucco; probably tile; tile roof; Old Italian type; garage and servants' quarters harmonize with dwelling; Clyde Williams & Robt. T. Gidley, Archts.

Va., Graham—Fred Amato plans Italian type dwelling.

Va., Portsmouth—John A. Wickstrom will erect 2 bungalows, block 3, plat of Kenilworth; \$6000 each.

### Government and State.

Ala., Jacksonville—Post Office—Elbert H. Posey will erect building for post office; brick and tile; 1 story, with foundations to carry second and third floors later; ultimate plans call for extension of upper floors over adjoining stores recently erected by Mr. Posey, to provide space for 20-room hotel; drug store connecting lobby of post office; tile floors in lobby and store.

Mo., St. Louis—Custom House—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., receives bids until Nov. 27 to remodel second floor, etc., Custom House; drawings and specification from Custodian at site or from office Supervising Archt.

Tenn., Nashville—Memorial and Capitol Annex Building—Tennessee Memorial Comsn., Hill McAlister, Chrmn. Bldg. Comm., State Capitol, receives bids until Jan. 10 to erect Tennessee War Memorial and Capitol Annex building; Edward Dougherty, 900 Stahlman Building, Nashville, and McKim, Mead & White, 101 Park Ave., New York, Asso. Archts.; plans and specifications from Mr. Dougherty.

### Hospitals, Sanitariums, Etc.

Ky., Louisville—Waverly Hill Sanatorium, Preston and Main Sts., A. H. Bowman, Prest., plans tubercular hospital; \$750,000 bonds voted, and \$250,000 expected from Jefferson County. (Lately noted).

La., Jackson—East Louisiana Hospital will erect buildings at State Insane Hospital; 1 story; concrete and frame; 30x120 ft.; wood floors; concrete foundation; slate roof; Favrot & Livaudais, Archts., Hibernia Bank Bldg., New Orleans; owner builds; construction begun. (Lately noted).

Mo., St. Louis—Board of Public Service, E. R. Kinsey, Prest., City Hall, will erect \$100,000 building at City Tuberculosis Sanatorium; 2 stories; 33x193 ft.; fireproof; brick; stone and reinforced concrete; E. E. Christopher, Archt.; L. R. Bowen, Ch. Engr.; both City Hall.

Mo., St. Louis—City, Mr. Kiel, Mayor, votes Feb. 9 on \$4,500,000 bonds for hospitals and institutions. (See City and County)

Tex., Amarillo—Potter County, R. C. Johnson, Judge Commissioners' Court; receives bids until Dec. 12 to erect hospital, nurses' home and tubercular cottage; plans and specifications from Guy A. Carlander, Archt.; separate bids for plumbing, electric wiring and heating.

Va., Lynchburg—Virginia Baptist Hospital Assn. will erect hospital group of 9 fireproof buildings, Rivermont Ave.; administration building, 50x190 ft., 4 stories; 2 ward buildings, 50x100 ft., 3 stories; 2 tuberculosis wards, 50x100 ft., 2 stories; nurses' home, 40x100 ft., 3 stories; garage and servants' building, about 30x150 ft., 2 stories; 2 physicians' residences; hardwood and terrazzo floors; concrete foundations; hollow fireproof tile; metal doors; slate roofs; capacity 200 beds, exclusive of children's and tuberculosis wards, operating rooms, etc.; administration

building to be erected first, other units later; Stanhope S. Johnson, Archt.; plans ready for bids in January.

### Hotels.

Fla., Miami—N. B. T. Roney will erect \$40,000 hotel, Collins Ave.; Spanish type, 30 rooms; stucco; Robt. A. Taylor, Archt. (Lately noted).

Fla., Tampa—Haven Beach Hotel and Resort Co., Geo. L. Dick, Prest., will expend \$150,000 to erect hotel, bath house, dancing pavilion and fishing pier at Haven Beach; bathhouse to have 200 rooms; fishing pier to extend 300 ft.; Lester Avery, Archt., Clearwater. (Previously noted).

Miss., Biloxi—North Biloxi Improvement Assn. plans to erect town hall, 25-room hotel, cannery, etc., at Back Bay.

Mo., Columbia—Columbia Hotel Co., E. W. Leonard, Prest., purchased Daniel Boone Tavern and will remodel and erect 50-room addition.

Mo., Jefferson City—Central Hotel Co. will erect hotel on High St.

N. C., Durham—Malbourne Hotel, E. I. Bugg, Mgr., will erect 150-room addition.

Okla., Ponca City—J. M. Van Winkle, Henry Buckner and D. E. Mooney will erect \$100,000 hotel; 50x140 ft.; 4 stories; concrete foundation; metal ceilings; interior tile; concrete floors; steel sash and trim; wire glass; J. C. Ibach, Archt. (Lately noted).

Tex., Brady—Brady Hotel Co. will erect \$55,000 hotel; 3 stories; 75x90 ft.; reinforced concrete; concrete floors and foundation; ventilators; steam heat; Roy E. Lane, Archt., Waco; plans ready about Dec. 15. (Lately noted).

Tex., Austin—Baker Hotels, Inc., Theo. B. Baker, Prest., will erect \$800,000 hotel on Congress Ave.; 200 rooms; Sanguinet, Staats & Hedrick, Archts., Fort Worth.

Va., Williamsburg—Frank G. Linekin will erect hotel; fireproof; 75 rooms with bath; golf links in connection; A. Byron Williams, Archt., Newport News.

### Miscellaneous.

Fla., St. Petersburg—Clubhouse—Sunshine Pleasure Club plans to erect building at Waterfront Park.

La., Jennings—Fair—Jefferson Davis Parish Fair Assn. will erect several exhibit buildings.

Miss., Biloxi—Camp—Seashore Campground Board of Trustees, B. Z. Welch, Prest.; dormitory, etc.; \$100,000; Carl E. Mathews, Archt. (Previously noted).

Mo., Kansas City—Grandstand, etc.—Kansas City American Assn. Baseball Co., Geo. Muelbach, Prest., 18th and Main Sts., will erect grand stand; also 2-story office building; Osborn Engineering Co., Engr., 2848 Prospect Ave., S. E., Cleveland, O.

S. C., Greenville—Restaurant—Judson Mill will erect restaurant; 40x100 ft.; 1 story; hollow tile walls; steel sash and doors; composition floors; J. E. Sirrine & Co., Archts.

S. C., Pelzer—Gymnasium—Pelzer Mfg. Co. will erect \$40,000 gymnasium; J. J. Baldwin, Archt., Anderson.

Tex., San Antonio—Clubhouse—Hillcrest Country Club will remodel and erect addition to building; Malcolm G. Simons, Archt., will take bids on general contract, wiring and plumbing, separately.

W. Va., Huntington—Home—Thirty Early Settlers, Chas. R. Wilson, Prest., plans to erect several buildings.

### Schools.

Ala., Albany—Board of Education, R. W.

Cowart, Supt., will erect high school; 2 stories and basement; 800,000 cu. ft.; reinforced concrete foundation; wood, composition and concrete floors; hollow fireproof tile; metal ceilings; metal doors; steel sash and trim (alternate wood); composition shingle roof; ventilators; steam heat; bids about Dec. 19; Wm. B. Ittner, Archt., Bd. of Education Bldg., St. Louis. (Lately noted).

Ala., Birmingham—Birmingham-Southern College Trustees will erect Simpson High School on 8th Ave. of 2 buildings; both 1 story; one building for principal's office, library, laboratory, 10 classrooms; other U-shaped dormitory to accommodate 60 students.

Ala., Mobile—City and Mobile County vote Jan. 23 on \$350,000 bonds each to erect high school to replace Barton Academy; S. S. Murphy, Supt. of Schools.

Fla., Jacksonville—Duval County Board of Public Instruction, F. A. Hathaway, Supt., receives bids until Dec. 9 to erect 2 junior high schools, 10th and Hubbard Sts. and Stockton and College Sts.; separate bids for heating and plumbing; plans include 2 and 3 stories; 250x160 ft.; \$275,000 each; reinforced concrete, hollow fireproof tile and wood joist construction; tile and 4-ply and tar and gravel and 5-ply roofs; concrete foundations; ornamental terra cotta; interior tile; rolling partitions; vacuum steam heat; electric lights, clocks, inter phone systems; ventilators; plans and specifications at office Greeley & Benjamin, Archts., and office Mr. Hathaway. (Lately noted).

Fla., Key West—Board of Public Instruction will erect \$50,000 high school; concrete; paper and gravel roof; pine floors; plaster board; steel sash and trim; electric lights; Ray Thomas, Archt., Austin, Tex.; contract let about Dec. 15. (Previously noted).

Fla., Umatilla—Board of Public Instruction, D. H. Moore, Secy., Tavares, will erect high school; bids opened Nov. 20; E. C. Horsford, Archt., Johnson Bldg., Lakeland.

Ga., Atlanta—Georgia School of Technology, M. L. Brittain, Prest., will not erect stadium at present as lately reported.

Ga., Newton—Baker County Board of Education will erect school in Patmos School Dist.

Ga., Waycross—Board of Education, Jno. W. Bennett, Chrmn. Comm., plans to erect several buildings and improve present structure.

Ky., Ashland—Board of Education, C. E. Ackley, Supt., plans to erect 2 junior high schools.

Ky., Frankfort—Board of Education plans to erect high school; election probably in January on \$150,000 bonds.

Ky., Whitesburg—Glogora Coal Co. will erect school. (See Dwellings).

La., Baker—School Board plans to erect brick high school; election Dec. 12 on \$50,000 bonds.

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., will receive duplicate bids until Nov. 29 at office Richard Gwinn, City Register, City Hall, to erect Northeast Junior High School in Clifton Park; \$700,000; 3 stories and basement; 400x160 ft.; 30 classrooms; assembly hall to seat 2000; hollow fireproof and interior tile; hardwood, concrete and tile floors; ornamental terra cotta; plaster board; wire glass; steel sash and trim; indirect steam heat and ventilators; electric lights; plans and specifications at office J. F. Crowther, Inspector of Bldgs., City Hall, and office Josias Pennington, Archt., Professional Bldg. (Lately noted).

Md., Cecilton—Cecil County Board of Education, Elkton, will erect 4-room addition



and repair high school. (See Md., Elkton).

Md., Chesapeake—Cecil County Board of Education, Elkton, will erect high school, repair present building and erect colored school. (See Md., Elkton).

Md., Elkton—Cecil County Board of Education will erect 4-room addition and repair Cecilton High School; also repair colored school; \$14,500; erect Chesapeake City High School, repair present structure and erect colored school; \$26,600; erect several buildings and repair colored school at Elkton; \$52,000; erect consolidated school in fourth district; \$15,000; 5-room addition and repairs to North East High School; \$17,000; 4-room addition and repairs to Rising Sun High School; \$13,000; (\$150,000 bonds lately noted).

Md., North East—Cecil County Board of Education, Elkton, will erect 5-room addition and repair high school. (See Md., Elkton).

Md., Rising Sun—Cecil County Board of Education, Elkton, will erect 4-room addition and repair high school. (See Md., Elkton).

Mo., Cameron—Board of Education will erect grade school; 8 rooms and basement; also repair and install heating plant in Southside school; \$60,000 bonds voted. (Lately noted).

Mo., Columbia—Board of Control of Council Residence Hall will erect \$125,000 building at University of Missouri for Methodist women students; Jas. P. Jamieson, Archt., St. Louis.

N. C., Charlotte—Mecklenburg County Board of Education will erect \$30,000 school in Long Creek School Dist.; 8 rooms and auditorium; also \$20,000 building in Sardis Camel School Dist.; 6 rooms; brick and frame; Barrett roof; wood floors; steam heat; electric lights; bids about Dec. 1. Address Willard G. Rogers, Archt., 502 Trust Bldg. (Lately noted).

N. C., Chapel Hill—Durham County Alumni Assn. of University of North Carolina, Jno. Sprunt Hill, Durham, and others, will organize as Carolina Club, Inc., and plan to erect \$150,000 inn at university.

N. C., Durham—Durham County Board of Education, J. W. Carr, Jr., Supt.; \$33,750 addition to East Durham School; 1 story; brick; wood floors; concrete foundations; Johns-Manville built-up roof; Rose & Rose, Archts.; Salmon, Shipp & Poe, Contrs., First Natl. Bank Bldg.; W. H. Gurley, plumbing; Budd Piper Roofing Co., roofing and sheet metal work; all Durham; Makepeace Box & Lumber Co., Sanford, millwork.

Okl., Miami—Board of Education will erect \$75,000 school; Simpson & Flawn, Archt., Carthage, Mo.

Tenn., Ashland City—School Board will erect gymnasium at Central High School; skating rink, indoor baseball, etc.

Tenn., Athens—Athens branch of University of Chattanooga plans to erect \$50,000 gymnasium.

Tenn., Morristown—Mayor and Board of Aldermen receive bids until Dec. 8 to erect high school; proposals for building complete including heating, plumbing and wiring, or separate bids on building, heating and plumbing; plans on file at City Hall, and office Clarence T. Jones, Archt., James Bldg., Chattanooga. (Lately noted).

Tex., Austin—Rev. K. P. Barton, Pastor, University Methodist Church, is interested in erection of New Wesley Bible Chair Building, Gaudelupe and 24th Sts., \$60,000.

Tex., Galveston—Board of Education will erect schools, remodel and enlarge present

structures; Wm. B. Ittner, Board of Education Bldg., St. Louis, and DeWitt & Lemmon, Dallas, Asso. Archts. (\$1,000,000 bonds lately noted voted).

Tex., Iowa Park—School Board will erect \$50,000 building.

Tex., Wichita Falls—City School Board, W. W. Brown, Secy., receives bids until Dec. 5 to erect junior college; separate bids on general work, plumbing, electrical work, heating and ventilation; plans and specifications at office Wm. B. Ittner, Archt., Board of Education Bldg., St. Louis, and Voelcker & Dixon, Asso. Archts., Wichita Falls. (Lately noted).

Va., Glen Allen—Virginia Randolph Training School for Girls, C. A. Cooper, Supt., will erect \$20,000 dormitory, 2 stories and basement; 56x33 ft.; Chas. M. Robinson, Archt., Times-Dispatch Bldg., Richmond, is revising plans.

Va., Richmond—School Board, C. P. Walford, Clk. and Supvrs., 412 N. 8th St., will erect Webster Davis School, Graham and Union Sts.; bids opened Nov. 21; plans and specifications at offices School Board, Chas. M. Robinson, Archt., and Builders' Exchange.

### Stores.

Fla., Bradentown—J. P. Turner will erect \$25,000 building, Manatee Ave. and Pine St.; 2 stories; hollow tile and brick; stone trim.

Fla., DeLand—Landis, Fish & Hull; 2-story store and office building; 52x75 ft.; brick and stone; Fuquay & Green, Archts., Daytona; Gus Lauman, Contr., DeLand.

Fla., Miami Beach—Harry Leavitt, Hamilton, Ontario, will erect 3-story building.

Fla., St. Petersburg—Fred W. Lytton plans to erect additional story to 2-story brick building on Central Ave.

Ga., Atlanta—Central Mortgage & Realty Co., will erect \$17,000 brick store at 692 W. Peachtree St.; \$17,000.

Ga., Atlanta—Massell Realty Co., will erect 3-story building, 567 Whitehall St.; \$50,000; also 2-story structure, 475 Whitehall St.; \$75,000.

Ky., Hazard—J. W. Kelley will erect \$25,000 business block, Main St.; contract at once.

Ky., Louisville—C. W. Brawner will erect store and dwelling, 3804 W. Chestnut St.

Ky., Whitesburg—Lewis Wholesale Co. will erect store and office building; contract at once.

Ky., Whitesburg—Mullins & Fairchild will erect store on Main St.; contract in 2 weeks.

La., New Orleans—Pfeiffer & Co. will reconstruct 4-story brick and frame building on Poydras St.; composition roof; Herbert J. Betzer, Archt., 812 N. Claiborne St., will supervise construction.

Mo., Kansas City—C. O. Jones will erect store, 3721-28 Wyoming St.; \$20,000.

Mo., Kansas City—F. H. Criter will erect

\$11,000 building, 1403-07 W. 9th St.

Mo., Kansas City—W. H. Frazell will erect \$14,000 building, 3924-26 Locust St.

Mo., St. Louis—Wm. W. Ramsay will erect store and apartment building, Delmar Blvd. and Leland Ave.

Mo., Springfield—J. S. Smith will erect 1-story brick building on E. Walnut St.

N. C., Asheville—Dr. M. E. Hoffman will erect 4-story store and office building on Spruce St.; \$35,000 to \$40,000.

Tex., Taylor—Southern Plumbing Co. will erect \$12,000 building; 27x70 ft.; concrete frame faced with brick; Giesecke & Harris, Archts., Littlefield Bldg., Austin.

Va., Lynchburg—C. M. Guggenheimer will erect \$200,000 department store; 4 stories, basement and sub basement; 92x132 ft.; reinforced concrete and hollow fireproof tile; concrete and hardwood floors; reinforced concrete foundation; flat slab and Barrett roof; interior tile; metal doors; steel sash and trim; ornamental terra cotta trim; vaults; ventilators; wire glass; vault lights; ready for bids in spring; Stanhope S. Johnson, Archt., People's Bank Bldg. (Lately noted).

W. Va., Clarksburg—Wolk-Teitelbaum Co., Will H. Melet, V.-P.-Gen. Mgr., 114 S. 3rd St., will erect \$80,000 building; 3 stories and basement; 75x100 ft.; brick and concrete; bids received Dec. 1.

W. Va., Clarksburg—Chas. S. Warne, Warne Apts., will erect 4-story building, W. Pike and Second Sts.; \$70,000; 45x150 ft.; fireproof; brick and steel; concrete and wood floors; built-up roof; street floor, 2 stories; 2nd and 3rd floors, 8 apartments; roof garden on top floor; swimming pool, shower baths, gymnasium and basket ball court in basement; H. Rus Warne, Archt., Charleston. (Lately noted).

### Theaters.

Ky., Hopkinsville—Crescent Amusement Co., Harry Sudekum, Nashville, Tenn., will erect \$150,000 theater; seating capacity 1200.

La., New Orleans—B. F. Brennan & Bros., 115 University Pl., will erect theater, Lafayette Ave. and Marais St.; 1 story; 56x134 ft.; steel frame faced with cement stucco; Montz & Maroney, Archts., Guarantee Bldg.; owners build. (Lately noted).

### Warehouses.

Ga., Cartersville—Cartersville Knitting Mill will erect warehouse; 50x60 ft.; corrugated iron; also office building; 30x30 ft.; brick; fireproof vaults.

La., New Orleans—Board of Port Commissioners, 200 New Orleans Court House, rejected bids to remodel Poydras Street Shed and will soon call for new bids; Diboll & Owen, Archts. (Previously noted).

S. C., Spartansburg—Isaac Andrews will erect 2-story brick building on Broad St. as storage for South Carolina Gas & Electric Co.

## BUILDING CONTRACTS AWARDED

### Apartment Houses.

D. C., Washington—Board of Temperance, Prohibition and Public Morals of M. E. Church; 5-story building, First St. and Maryland Ave., N. E.; Italian Renaissance type 152x129x39 ft.; garage in rear; fireproof; steel frame; granite to first story level, limestone veneer above; fireproof; 15 housekeeping and 2 bachelor apartments on 3 top floors; Ballinger Co., Archts.-Engrs., 12th and Chestnut Sts., Philadelphia; Boyle-Robertson Construc-

tion Co., Contr., Washington.

Md., Baltimore—M. S. Meyerhoff, Prest., Park Hgts. Development Co.; 3 buildings, Reisterstown Rd. and Ocata Pl.; \$100,000; 3 stories; brick; 39x53 ft.; 6 suites each with 6 rooms and bath; Chas. H. Zink, Archt., Holly and Hawthorne Aves., Hamilton; Allied Construction Co., Contr.

Tenn., Memphis—J. W. Yarbrough has contract to erect 4-apartment building, Madison and Cox Sts.; rough faced brick with stone and buff brick trim; slate roof; slate terraces

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

across 3 sides of building; 2 stories; built-in tile baths and built-in beds; garage for each suite; J. Frazier Smith, Archt.

### Association and Fraternal.

Tex., Breckenridge—Lodge No. 244, I. O. O. F.; \$15,000 building, N. Breckenridge Ave.; 2 stories; brick; 32x100 ft.; hardwood and concrete floors; 10-yr. Johns-Manville roof; metal ceilings; ventilators; C. E. Praeger, Archt., Breckenridge; Crenshaw & Brewster, Contrs., Mineral Wells; Strawbridge Electric Co., electrical work; Mr. Nickels, care Alamo Hotel, heating and plumbing; both Breckenridge.

### Bank and Office.

Mo., St. Louis—Famous Players-Missouri Corp., Nathan Frank, Prest., 12-story office building on foundations already laid, Grand Blvd. and Lucas Ave.; \$1,000,000; reinforced concrete; white stone and brick; facilities for physicians and surgeons with hospital on top floor; Helfensteller, Hirsch & Watson, Archts., Chemical Bldg.; Jas. Black Masonry & Contracting Co., Contrs., Arcade Bldg.

Okl., Tulsa—Exchange National Bank will erect 12-story annex, Third and Boston Sts.; about \$1,000,000; steel, concrete and brick; terra cotta trim; gray polished granite for 2 lower floors; asphalt roof; hardwood, tile and marble floors; hollow fireproof and interior tile; metal doors; wire glass; steel sash and trim; ventilating system; Weary & Alford Co., Archts., 1923 Calumet Ave., Chicago; Kansas City Structural Steel Co., Kansas City, Mo., contractor for fabricating structural steel work; Maine & New Hampshire Granite Co., North Jay, Maine, granite; Northwestern Terra Cotta Co., terra cotta; Hydraulic Press Brick Co., brick; both Chicago; Herring-Hall-Marvin Safe Co., Hamilton, O., vaults; Electric Supply Co., electrical work; J. L. Heath Co., mechanical equipment; both Tulsa. W. H. Horster will have general supervision of construction. (Previously noted).

### Churches.

Ark., Little Rock—First Baptist Church, Rev. L. M. Sipes, Pastor; remodel building, 1201 Louisiana St.; \$35,000; auditorium, including balcony, to seat 1500; Sunday school to seat 1000; basement; Johnson-Dickerson Co., Contrs.

Tex., San Antonio—West End Methodist Church, Judge C. A. Davis, Chmn. Bldg. Comm.; \$75,000 building, W. Woodlawn Ave. and Zarzamora St.; brick, hollow tile and stucco; auditorium to seat 700; Sunday school rooms, etc.; plans by Church Extension Dept., M. E. Church, South, Louisville, Ky.; W. N. Hagy, Contr.

### City and County.

N. C., Smithfield—Home—Johnston County, D. B. Oliver, Chmn. County Commrs., Pine Level; \$28,300 home near Smithfield; reinforced concrete; brick and frame; 2 stories; pine floors; composition shingle roof; Benton & Benton, Archts., Wilson; Kenyon & Thompson, Contrs.; Thompson Electric Co., electrical work; both Raleigh; Fayetteville Plumbing Co., Fayetteville, plumbing and heating.

### Dwellings.

Ga., LaFayette—Consolidated Textile Corp. let contract to erect 70 employees' cottages.

Ga., LaFayette—LaFayette Cotton Mill, W. A. Enloe, Mgr., let contract to erect 30 cottages.

La., New Orleans—Frank R. Heiderick, Jr.; \$11,050 bungalow, Plum and Oak Sts.; E. L. Markel, Contr.

Md., Baltimore—Jas. P. Aaron, 5017 Elmer Ave.; 2-story frame dwelling, 3206 Windsor Ave.; about \$10,000; 29.6x39.6 ft.; hot water heat; Wm. H. Emory, Jr., Archt., 615 Munsey Bldg.; J. F. Hardy, Contr., 4200 Groveland Ave.

Md., Baltimore—L. B. Clemens; 2 dwellings, south side Kenneth Sq., west of York Rd.; 2½ stories; frame and stone; Louis C. Wood, Contr., 506 Nicoll Ave.

Mo., Kansas City—Lee Agee; \$60,000 residence, 3728 Holmes St.; 91x35½ ft.; 16 rooms and 3 baths; rough faced brick; cut stone trim; tile roof; chauffeur's quarters above 2-car garage; C. M. Jespersen, Archt., care Agee-Block Construction Co., Contr.

Tenn., Memphis—E. W. Adler; \$15,000 dwelling, 1574 Eastmoreland St.; 2 stories; brick veneer; Sundholm Construction Co., Contr.

Tenn., Memphis—Sadie M. Ervine; \$15,000 dwelling, 1572 Eastmoreland St.; 2 stories; brick veneer; Sundholm Construction Co., Contr.

Tex., San Antonio—Arthur Muir; \$16,500 dwelling, Elizabeth Rd.; stucco and hollow tile; Adams & Adams, Archts.; W. C. Perry, Contr.

Tex., San Antonio—Mrs. Lucille Thornton; \$10,500 dwelling, Terrell Hills; 2 stories; stucco; hardwood floors; hot air heat; Atlee B. and Robt. M. Ayres, Archts., Bedell Bldg.; John Westerhoff, Contr.

W. Va., Charleston—Joe Lowenstein, 1405 Quarrier St.; \$20,000 dwelling, 1536 Elizabeth St.; brick and stone; about 52x48 ft.; hardwood floors; hollow fireproof tile; 2 stories and attic; shingle roof; Knapp & Haviland, Archts.; Wallace & Agnor, Contrs.

### Hotels.

Ala., Opp—M. E. Donaldson will erect hotel; contract let.

Ky., Louisville—J. Graham Brown, Prest., W. P. Brown & Sons Lumber Co., let contract for excavation for \$2,000,000 hotel to L. W. Hancock, Louisville; Preston J. Bradshaw, Archt., International Life Bldg., St. Louis. (Lately noted in detail).

### Miscellaneous.

Fla., Miami Beach—Clubhouse—Miami Beach Bay Shore Golf Club; \$23,000 building; Beach Constr. Co., Contr., Miami Beach; August Geiger, Archt., Miami.

Fla., Miami—Day Nursery—Woman's Relief Assn., Mrs. Jno. Sewell, Prest.; \$10,000 day nursery; Chas. S. Ewing, Contr.

### Schools.

Ga., Atlanta—Board of Education, J. N. Landres, City Purchasing Agt.; colored junior-senior high school; \$400,000; E. C. Wachen-dorf, Archt.; A. Ten Eyck Brown, Supervising Archt., Forsyth Bldg.; McDevitt-Fleming Co., Contr., Chattanooga, Tenn.

La., Baton Rouge—Rev. L. Lawrence will erect chapel and rectory; \$25,000; 2 stories; frame; Burke & Dufrechou, Archts., 411 Balter Bldg., New Orleans; Hatfield & Hatfield, Contrs., Baton Rouge.

La., Monroe—Louisiana Training Institute Trustees; \$35,000 cottage dormitory; J. W. Smith, Archt., Monroe; J. O. Wev, Contr., Bernice.

La., Natchitoches—State Normal School, V. L. Roy, Prest., \$59,500 gymnasium; 2 stories; 80x100 ft.; brick and frame; wood floors; composition roof; concrete foundation; low pressure steam heat; Favrot & Livaudais, Archts., Hibernia Bank Bldg., New Orleans; W. J. Quick, Contr., Lake Charles.

La., New Orleans—Orleans Parish School

Board, Daniel J. Murphy, Prest.; \$219,000 grammar school, St. Claude and Alder Sts.; 3 stories; 150x300 ft.; 30 classrooms; hollow fireproof and interior tile; steel, tile and concrete floors; concrete foundation; asbestos built-up roof; rolling partitions; E. A. Christy, Archt.; O. M. Gwin Constr. Co., Contr., 812 Canal-Commercial Bldg.; American Plumbing & Heating Co., heating and plumbing; Union Electric Co., electric lights.

Md., Annapolis—United States Naval Academy; \$32,400 steel grandstand; Chesapeake Iron Co., Contr., Baltimore.

Mo., Kansas City—City Board of Education, City Library; \$300,000 school, 27th St. and Topping Ave.; one and two stories; 230x250 ft.; brick; terra cotta trim; concrete floors and foundation; composition and slate roof; Chas. A. Smith, Archt., Finance Bldg.; Rosenthal & Co., Contrs., 604 Ridge Bldg.; McKinley Plumbing & Heating Co., heating and plumbing; Wyandotte Electric Co., electric lights; Western Terra Cotta Co., terra cotta.

Mo., St. Louis—Board of Education, 9th and Locust Sts., will erect Cyrus P. Walbridge and Edward H. Long schools; 2 stories; reinforced concrete and brick; Humes-Deal Co. Gen. Contrs., at \$253,579 and \$281,966; J. Sheehan Plumbing Co., plumbing, \$15,000 and \$14,389; also vacuum cleaning system, \$3343 and \$3698; Edwin P. Ambler, heating and ventilating, \$35,052 for each school; E. O. Dorsch Electric Co., electrical equipment, \$8475 and \$8935; also erect addition to Sumner High School; Kellerman Contracting Co., Gen. Contr. at \$45,753; J. Sheehan Plumbing Co., plumbing, \$1960; Bradley Heating Co., heating and ventilating, \$11,900; E. O. Dorsch, electrical equipment, \$2970; R. M. Milligan, Archt., Board of Education Bldg.

Okl., Tulsa—Board of Education; additions to Whittier and Pershing Schools; \$12,000 each; brick; J. W. Wilson, Contr.

Tex., Brady—School Dist. Trustees; \$40,000 building; 2 stories; 65x111 ft.; brick and concrete; wood and concrete floors; reinforced concrete foundation; H. F. Kuehne, Archt., Littlefield Bldg., Austin; H. H. Richards, Contr., Brady.

Tex., Waco—Baylor University, Dr. S. P. Brooks, Prest.; \$126,484 library; 4 stories; 84x100 ft.; hollow fireproof tile and reinforced concrete; tar and gravel roof; concrete, tile and cork floors; vault doors; steel sash; 4x4 ft. electric elevator, lifting capacity 1000 lb. and speed of 100 ft. per min., travel 40 ft.; electric lights; heating from central plant; Birch D. Easterwood, Archt., First State Bank Bldg.; J. E. Johnson Constr. Co., Contr.

### Stores.

Fla., Dade City—O. N. Williams & Son; 1-story brick store on Cherry St.; H. J. Mobley and E. D. Hughes, Contrs.

Fla., Fort Lauderdale—W. H. Marshall; 2-story store and office building; Cayot & Hart, contrs.

Fla., Fort Myers—Barden Bros.; store building; frame; cement floors; W. P. Henley, Contr.

Fla., Plant City—W. W. Wiggins; 2-story building on S. Collins St.; 50x105 ft.; brick; Harry Chapman, Contr.

Tenn., Memphis—Goodlet Estate Improvement Co.; \$10,000 building, 182 S. Main St.; E. J. Person, Contr.

Tenn., Memphis—Porter & Weaver; four 1-story brick stores, 1725-31 Poplar St.; M. J. Gallagher, Contr.

Tex., Abilene—Ralph Paint & Paper Co.; \$10,000 store; 25x130 ft.; R. C. Lewis, Contr.

## Theaters.

Fla., Sanford—Milane Amusement Co.; \$50,000 theater; seat 700; R. J. Galleple, Contr., Jacksonville.

Miss., Meridian—Jack Nelson; 2-story brick building on 5th Ave.; contract let.

N. C., High Point—J. J. Cox Estate will erect \$80,000 store on S. Main St.; terra cotta front; R. K. Stewart & Co., Contrs.

W. Va., Welch—Joe Mirabile; 4-story store and apartment building; \$37,000; 30x62 ft.; built-up roof; wood floors; stone foundation; Green & Stowe, Contrs.; Fred J. Elchart, plumbing and steam heat; McNary & Johnson Co., electric lights.

## MACHINERY, PROPOSALS AND SUPPLIES WANTED

**Alternator, etc.**—P. A. Smith, Box 886, Greensboro, N. C.—200 K. W. 3 phase, 60-cycle 2300 volt alternator with exciter and switchboard.

**Asphaltum (Flexible).**—H. S. Gibbes, 4 Arcade Bldg., Savannah, Ga.—To correspond with mfrs. of flexible asphaltum, capable of withstanding a temperature of at least 200 degrees F.; quotations in carload lots f. o. b. Savannah, Ga.

**Barges.**—U. S. Engr. Office, Rock Island, Ill.—Bids until Dec. 11 to construct and deliver ten 100 ft.x30 ft.x6 ft. steel barges complete as specified; further information on application.

**Barges (Steel).**—Mississippi River Comsn., 3rd Dist., Box 404, Vicksburg, Miss.—Bids until Dec. 14 to furnish nine steel barges; further information on application.

**Barge (Steel).**—U. S. Engr. Office, Wilmington, N. C.—Bids until Dec. 26 to construct one 60-ft. x 22-ft.x4 ft. steel barge; further information on application.

**Boat (Maneuver, Steel).**—U. S. Engr. Office, Huntington, W. Va.—Bids until Dec. 15 to furnish and deliver steel hull maneuver boat, etc., for Dam 30, Ohio river, further information on application.

**Boilers.**—P. A. Smith, Box 886, Greensboro, N. C.—Two 100 H. P. and 150 H. P. boilers.

**Bridge Approach Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 2 for approach fills for following: Buchanan County, to 4 bridges on State road from Faucett to New Market; State Proj. Route 1, Sec. 34; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.

Dent County, to bridge over Dry Fork of Merrimac River; west of Salem, Mo.; 25 ft.; on State road from Texas County line to Salem; State Proj. Route 32, Sec. 4; J. H. Long, Div. Engr., Willow Springs, Mo.

Howard County, at ends of bridge over Missouri River at Boonville, Mo.; on State road from St. Louis to Kansas City; State Proj. Route 2, Sec. 33; R. W. Hodson, Div. Engr., Capitol Bldg., Jefferson City.

Laclede County, to bridge over Gasconade River, near Lebanon, Mo.; 56 mi.; on State road from St. Louis to Springfield; State Proj. Route 14, Sec. 38; H. P. Moberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

Livingston County to 4 bridges on State road from Chillicothe to Trenton; State Proj. Route 3, Sec. 16; A. R. Towse, Div. Engr.; Masonic Bldg., Macon, Mo.

Mercer County, to bridge over Wild Cat Creek, near Princeton, and clear channel of Wild Cat Creek at bridge; on State road from Princeton southward; State Proj. Route 13, Sec. 4; A. R. Towse, Div. Engr.

Ozark County, to bridge over North Fork of White River; 400-ft.; on State road from Gainesville to Arkansas State line; Federal Aid Proj. 111B.

Pulaski County, to bridge over Big Piney River, near Waynesville; 550-ft.; on State road from St. Louis to Springfield; State Proj. Route 14, Sec. 45; H. P. Moberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

**Bridge Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Nov. 27 for bridge on State road from Charles-

ton to New Madrid; Mississippi County; Federal Aid Proj. No. 198 A; Sta. 478 plus 30, over Drainage Ditch; 40-ft. I-Beam span; 2 reinforced concrete abutments; wood floor; 18-ft. roadway; Frank B. Newton, Div. Engr., Sikestown, Mo.

**Bridge Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 4 for bridge between Lafayette and Ray Counties, on State road from St. Louis to Kansas City; three 410-ft. steel thru truss spans; two 25-ft. and two 50-ft. I-Beam spans; 9 steel truss spans; 2 reinforced concrete and 1 steel bents; 5 steel towers; 11 piers; 20-ft. roadway; concrete floor.

**Bridge Construction.**—Somervell County, R. L. Bryan, County Judge, Glen Rose, Tex.—Bids until Nov. 27 to build 2 bridges, Glen Rose and Booker Crossing; 787.35 cu. yds. concrete; 90,909 lbs. reinforcing steel; 107,940 lbs., structural steel; plans, etc., from Henry J. Cox, County Engr. (Lately noted).

**Bridge Construction.**—Noxubee County, Board of Suprvs., Jno. A. Tyson, Chancery Clk., Macon, Miss.—Bids until Dec. 4 for wooden bridge over Gully on Macon and DeKalb road; about 1 mi. from Gholson; plans, etc., on file. (Lately noted bids until Nov. 6).

**Bridge Construction.**—Agams County, Bd. of Suprvs., Henry B. Vaughan, Prest., Natchez, Miss.—Bids until Dec. 4 for following bridges:

Crescoted timber trestle on Leveal's Creek, on Garden City road.

On Foster and Henderson road.

On Brick Church and Foster's Mound road; plans, etc., from Frank V. Elsie, Clk. (Lately noted, bids until Nov. 6).

**Cages (Man, Convict).**—D. M. Blanding, Clk., Sumter County Board of Commrs., Sumter, S. C.—To purchase nine, twelve and eighteen man convict cages of channel steel, either new or second-hand; state specifications and prices f. o. b. Sumter.

**Clay Mining Machinery.**—Eugene Mathews & Co., Clifton Forge, Va.—Data and prices on mchy. for mining clay, also dryers and grinders for preparing clay for the market.

**Cornflakes.**—Quartermaster, Navy Bldg., Washington, D. C.—Bids until Nov. 24 for 300 cases cornflakes; delivery during Jan. and Feb. in lots of 100 cases as ordered by Post Quartermaster, Marine Barracks, Paris Island, S. C.; further information on application to Room 3207, Navy Bldg., 18th and B Sts.

**Compressor.**—P. A. Smith, Box 886, Greensboro, N. C.—8x8-in. belted air compressor.

**Confectioners' Supplies.**—Mrs. J. L. Call, Charlotte, Ark., Star Route.—To correspond with mfrs. of or dealers in confectioners' supplies, including pans, molds, etc.; also data on mfrs. of candy.

**Condenser.**—Pennsylvania Equipment Co., (Mchy. Dealers), Norwood, Pa.—To purchase 26,000 sq. ft. condenser.

**Copper Bars.**—See Metal (Monel, Sheet), etc.

**Crusher (Gyratory).**—Machinery Clearing House, Board of Trade, Indianapolis, Ind.—To purchase No. 4, T. L. Smith gyratory crusher with screen and elevator complete; to crush 1½-in. mesh, about 100 cu. yds. per

day; prefer one in good used condition near this vicinity.

**Dredge.**—Albert M. Alexander, Contr., Rosedale, Miss.—To purchase one second-hand Bay City dredge, walker or track type, 1 yd. capacity, gears, drums and working parts in good condition; state price, condition, etc.; immediate delivery.

**Drum Starter.**—Standard Electric Machinery Co. (Mchy. Dealers), 7 E. Hill St., Baltimore, Md.—One non-reversing drum starter and resistance with capacity of 75 to 80 amp. and a rotor volts of 170 for starting duty only; will consider an alternate on a multiple switch or face plate starter.

**Dryers and Grinders.**—See Clay Mining Machinery.

**Dryer (Rotary).**—Wilson-Hock Co. (Mchy. Dealers), City Point, Va.—Dealers prices on rotary dryer approx. 7-ft. diam., 90-ft. long, for drying with direct or semi-direct heat 50 tons of limestone per hr.; slightly used equipment preferred.

**Electric Light Plant Equipment.**—Gulf State Land & Lumber Co., Coushatta, La.—To purchase 5-3-1½ transformers; insulator pins cross arms; guy insulators, R. C. wire; meters, etc.

**Electric Supplies.**—Gulf State Land & Lumber Co., Coushatta, La.—To purchase full line of electric supplies.

**Engine (Fuel Oil).**—Herfurth Engine & Machinery Co., (Mchy. Dealers), Alexandria, Va.—75 or 100 H. P. fuel oil engine, second-hand; state price, condition, etc.

**Engine.**—Pennsylvania Equipment Co., (Mchy. Dealers), Norwood, Pa.—To purchase 6 wheel saddle tank or with separate tender switching engine, 60 to 75 tons; second-hand.

**Engines and Boilers.**—City of Wheeling, W. Va., C. H. Dowler, City Mgr.—Bids until Dec. 12 to design, construct, erect, operate and test 2 centrifugal low service pumping engines; 1 turbine driven centrifugal high service pumping engine; three 350-H. P. boilers, and the dismantling, moving and erecting of the existing Allis-Chalmers pumping engine; plans with City Clk. or The J. N. Chester Engineers, Pittsburgh, Pa.

**Engine.**—P. A. Smith, Box 886, Greensboro, N. C.—75 H. P. automatic or 40 valve high speed engine.

**Fasteners (Casement Sash).**—Even & Brunen, Box 707, Vero, Fla.—To correspond with mfrs. of casement sash fasteners that requires only small hole through window sill.

**Grinding (Mica) Equipment.**—Wilson-Hock Co. (Mchy. Dealers), City Point, Va.—Dealers prices on outfit to dry grind mica to 75 or 80 mesh; slightly used equipment preferred.

**Heating.**—Board of Awards, Richard Gwinn, Register, City Hall, Baltimore, Md.—Bids until Nov. 29 for heating, light court, City Hall, second floor; J. F. Crowther, Inspector of Buildings.

**Ice Cream Supplies.**—T. T. Harris & Co. (Mfrs. Agents), Roanoke, Va.—To represent mfrs. of ice-cream supplies.

**Ice Machines.**—Herfurth Engine & Machinery Co. (Mchy. Dealers), Alexandria, Va.—7½x7½, 9x9 and 10x10 ice machines, belt

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driven enclosed type; second-hand; state price, condition, etc.

**Insulators.**—See Electric Light Plant Equipment.

**Insulating Machinery.**—Harvey Mfg. Co., 277 Sherman Ave., Newark, N. J.—To purchase used insulating mch. designed to wrap single covering of either silk or cotton on enamel magnet wire; sizes of wire from No. 18 to 40.

**Knitting Machinery.**—Corley Bros., Lexington, S. C.—Prices on knitting machine for hosiery mill.

**Lumber.**—Adams County Board of Supvs., H. B. Vaughan, Pres., Natchez, Miss.—Bids until Dec. 4 for three-quarters of car of lumber,  $2\frac{1}{2} \times 8 \times 16$  ft. long; one-quarter of car  $2\frac{1}{2} \times 12 \times 20$  ft. long; all to be 90 per cent heart pine.

**Lumber.**—Holland Mfg. Co., Central Ave. and Bank St., Baltimore, Md.—To purchase heavy lumber for mill construction building.

**Machine Shop Equipment.**—D. B. Irwin, Box 1133, Raleigh, N. C.—New or second-hand machine shop equipment, including power shears for bars, angles and with punch; bolt threading lathe; hand bar cutter and bender; drill press and drills; small forge with blower.

**Metal (Monel, Sheet), etc.**—T. T. Harris & Co., (Mfrs. Agents), Roanoke, Va.—Prices on monel metal in sheets, aluminum sheets and copper bars  $\frac{1}{2}$  in. square.

**Metal (Sheet) Working Machinery.**—Griffith, Rodas & Co., Geo. M. Friggith, Mgr., Charleston, W. Va.—Bids open after Jan. 1 on mch. for mfr. of skylights, gutters, blow pipe systems, fans, heating and ventilating system.

**Meters.**—Gulf State Land & Lumber Co., Coushatta, La.—To purchase meters for electric lighting plant.

**Motors.**—J. P. Nanney Lumber Co., Morristown, Tenn.—Motors.

**Motor (Electric).**—Standard Electric Machinery Co. (Mch. Dealers), 7 E. Hill St., Baltimore, Md.—25 H. P., 3 phase, 60 cycle, 2300 volt motor complete, 00 to 1200 RPM.

**Moulds.**—Phil L. Spruill, Edenton, N. C.—To correspond with mfrs. of moulds for ornamental urns or flower pots.

**Natural Gas Distribution System.**—City of Alexandria, La., V. M. Ake, Secy-Treas. Bids until Dec. 7 for furnishing of all labor, tools, etc., and construction complete and ready for operation of natural gas distribution system: laying the following cast iron pipe: 77,826 lin. ft. of 4-in. 44,000 lin. ft. of 6-in., 13,370 lin. ft. of 8-in., and 5600 lin. ft. of 10-in., including the placing of all valves, specials, etc.; welding and laying the following steel pipe: 20,000 lin. ft. of 2-in. 6000 lin. ft. of 4-in., 8200 lin. ft. of 6-in., 8100 lin. ft. of 8-in., 5700 lin. ft. of 10-in., 4600 lin. ft. of 12-in., including the placing of all valves, specials, etc.; also opens bids for the following approx. quantities of material: 1653 tons of 4-in., 6-in., 8-in., 10-in. bell and spigot cast iron gas pipe; 21 tons Specials, 12½ tons drip pots; 300 Buffalo type roadway boxes; 50 Buffalo type gas drip boxes; 55,000 lbs. lead wool, alternate, 55,000 lbs. pig lead; 3000 lbs. untarred jute; for following plain ended standard steel pipe: 6000 lin. ft. of 4-in., 8200 lin. ft. of 6-in., 8100 lin. ft. of 8-in., weighing 28.55 lbs.; 5700 lin. ft. of 10-in. weighing 40.48 lbs.; 4600 lin. ft. of 12-in., weighing 49.56 lbs.; information on application to W. H. Sylvester, City Engr., or Secy-Treas.

**Paving.**—C. S. Yarborough, Mayor, Auburn, Ala.—Bids until Dec. 1 for 7 mi. sidewalk paving; \$20,000; H. V. Witham, Engr. (Lately noted).

**Paving.**—City, P. A. Poag, Secy., Monroe, La.—Bids opened Nov. 24 for paving N. 2nd St., between DeSard, and Washington Sts.; 2100 sq. yds. sheet asphalt; 1100 ft. curb and gutters; plans, etc., from R. S. Reynolds, City Engr.

**Paving.**—H. J. Hanks, Mayor, Port Tampa City, Fla.—Bids until Dec. 4 for  $\frac{3}{4}$  mi. paving on Prescott St.; plans, etc. from M'Elroy Engineering Co., Engr., Tampa, Fla.

**Paving.**—City Comsn., W. A. Evans, Chrmn., Jacksonville, Fla.—Bids until Dec. 14 for paving streets; 53,000 sq. yds. 2-in. asphalt concrete pavement on 6-in. base; 1500 sq. yds. vitrified brick pavement on 6-in. concrete base; 21,000 sq. yds. vitrified brick pavement on 7-in. lime rock base; 62,800 sq. yds. 6-in. concrete pavement with bituminous mat; 33,500 sq. yds. existing brick pavement, resurfaced with 1½-in. sheet asphalt on bituminous binder; relay 13,900 sq. yds. existing brick pavement with bituminous filler; 11,600 sq. yds. 2-in. bituminous macadam penetration wearing surface on 6-in. lime rock base; 1334 sq. yds. 5-in. lime rock pavement with oil surface treatment; (Ordinances Nos. Q-60, 63, 64, 65, 66, 67, 68, 69 and 70; plans, etc., from City Engr.

**Paving and Sewer Construction.**—Sid J. Smyer, Mayor, Newton, N. C.—Bids until Nov. 28 to grade, drain, pave, etc. certain streets: 5068 lin. ft. combined curb and gutter; 6525 sq. yds. plain cement concrete pavement, or 7950 sq. yds. cement concrete pavement with integral curb; 70 sq. yds. driveways; 2 catch basins; 35 lin. ft. 18 and 24-in. D. S. vitrified pipe storm sewers; plans, etc., on file and from Saml. B. Howard, Engr., after Nov. 23.

**Paving.**—State Highway Comsn.—H. G. Shirley, Chrmn., Richmond, Va.—Bids until Nov. 25 to surface .5 mi. W. State St.; sheet asphalt surface with concrete base course; plans, etc., from Dist. Engr., Bristol, Va., and at State Highway Dept., Nashville, Tenn.

**Printing Machinery.**—Bible Baptist Publishing Co., Trilby, Fla.—Printing mch.

**Pump (Fire).**—M. B. Parker, Chattanooga, Tenn.—Dealers prices on 750 G. P. M. steam driven underwriters fire pump for resale.

**Pumping Station.**—Foley Drainage Dist. Comms., Foley, Mo.—Bids until Nov. 27 to construct buildings necessary to house pumping mch., including 2 oil engines and centrifugal pump.

**Purifier (Centrifugal, Oil).**—Board of Awards, Richard Gwinn, Register, City Hall, Baltimore, Md.—Bids until Nov. 22 to furnish and deliver f. o. b. Baltimore, (Calvert Station, P. R. R.) one centrifugal oil purifier to Water Dept.; specifications obtainable from Wm. A. Megraw, Water Engr., Room 207, City Hall.

**Reservoir Dam.**—Bluefield Water Works and Improvement Co., Wm. McCarthy, Supl., Bluefield, W. Va.—Bids until Nov. 25 to construct clay or earthen dam, containing 40,000 cu. yds. of material, to be sluiced into place; further information on application.

**Reservoir.**—M. C. Wagner, Montcalm, W. Va.—Bids until Jan. 1 on construction of concrete reservoir.

**Road Construction.**—Building Board of American Legion Memorial Sanatorium of Texas, Austin, Tex.—Bids until Dec. 8 for gravel roads and sidewalks at American Legion Memorial Sanatorium, Kerrville, Tex.; plans, etc., from Phelps & Dewees, Archts. Gunter Bldg., San Antonio, Tex.

**Road Construction.**—Louisiana Highway Comsn., Raymond Bldg., Baton Rouge, La.—Bids until Dec. 1 to grade, construct drainage structures, and gravel surface 16.7 mi.

Monroe-Ruston highway; Ouachita Parish, Proj. 114, Sec. B.; plans, etc. on file; J. M. Fourmy, State Highway Engr. (Lately noted.)

**Road Construction.**—Lake County, Board of County Comms., H. R. Ferarr, Chrmn., Tavares, Fla.—Bids until Dec. 4 to grade, drain and surface with sand, clay and shell, 18.9 mi. Road No. H, East Lake County Special Road and Bridge Dist., between Altoona and Crows Bluff; plans, etc., from Geo. E. Heller, County Engr., and T. C. Smyth, County Clk.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 2 to grade and construct drainage structures on following:

Barry County, 3.240 mi. State road from Monett to Eureka Springs; gravel surfacing; State Proj. Route 3, Sec. 10; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin.

Cape Girardeau County, 2.585 mi. State road on Kings Highway from Jackson to Perry County line; State Proj. Route 25, Sec. 19; Frank B. Newton, Div. Engr., Sikeston, Mo.

Carter County, 4.489 mi. State road from Carter County line to Elsinoire; State Proj. Route 16, Sec. 73.

Carier County, 4.489 mi. State road from Elsinoire to Poplar Bluffs; State Proj. Route 16, Sec. 74; J. H. Long, Div. Engr., Willow Springs, Mo.

DeKalb County, 5 mi. north and south State road through County; State Proj. Route 31, Sec. 1; N. R. Sack, Div. Engr., Ballinger Bldg., St. Louis, Mo.

Douglas County, 2.01 mi. State road from Wright County line to Ozark County line; State Proj. Route 5, Sec. 93.

Douglas County, 3.31 mi. State road from Wright County line to Ozark County line; State Proj. Route 5, Sec. 94; J. H. Long, Div. Engr., Willow Springs, Mo.

Lafayette County, 2.886 mi. State road on Sante Fe Trail; concrete surfacing; State Proj. Route 20, Sec. 10; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Linn County, 1.942 mi. north and south State road through County; concrete surfacing; State Proj. Route 5, Sec. 15; A. R. L. Towse, Div. Engr., Howe Bldg., Macon, Mo.

Mississippi County, 2.061 mi. State road from Cairo to Poplar Bluff; concrete and gravel surfacing; State Proj. Route 16, Sec. 94; Frank B. Newton, Div. Engr., Sikeston, Mo.

Perry County, 4.636 mi. State road on Kings Highway; gravel surfacing; State Proj. Route 25, Sec. 12; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Groves, Mo.

Ray County, 4.991 mi. State road from Excelsior Springs; State Proj. Route 10, Sec. 14; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Reynolds County, 4.866 mi. State road from Centerville to Ellington; State Proj. Route 21, Sec. 25; J. H. Long, Div. Engr., Willow Springs, Mo.

St. Genevieve County, 4.482 mi. State road through County; gravel surfacing; Proj. Route 25, Sec. 5; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Groves, Mo.

St. Louis County, 2.244 mi. State road from St. Louis to Springfield; concrete surfacing; State Proj. Route 14, Sec. 77; S. M. Rudd, Div. Engr., Bristol Bldg., Webster Groves, Mo.

Wright County, 1.279 mi. State road from Hartsville to Mansfield; gravel surfacing; State Proj. Route 5, Sec. 80; J. H. Long, Div. Engr., Willow Springs, Mo.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 2 for following:

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Barry County, 4.914 mi. State road from Monett to Eureka Springs; one course gravel surfacing; State Proj. Route 37, Sec. 7.

Dallas County, 4.896 mi. State road from Bolivar to Buffalo; gravel surfacing; State Proj. Route 15, Sec. 80.

Marion County, 4.061 mi. State road from Vienna to Osage County line; gravel surfacing; State Proj. Route 7, Sec. 55.

Miller County, 4.991 mi. State road from Cole County line to Eldon; State Proj. Route 15, Sec. 56.

Moniteau County, 2.322 mi. State road on Capital Highway; State Proj. Route 12, Sec. 29.

Moniteau County, 5 mi. State road on Capital Highway; State Proj. Route 12, Sec. 30.

Ozark County, 5 mi. State road from Douglas County line to Howell County line; State Proj. Route 5, Sec. 95.

Ozark County, 4.375 mi. State road from Douglas County line to Howell County line; State Proj. Route 5, Sec. 96.

Perry County, 1.403 mi. State road, relocating McBride Hill; State Proj. Route 51, Sec. 3.

Sullivan County, 5 mi. State road from Milan to Green City; State Proj. Route 6, Sec. 34.

**Road Construction.**—Fayette County, J. P. Ehlinger, County Judge, Lagrange, Tex.—Bids opened Nov. 22 for 12.87 mi. State Highway No. 3-B; 54,464 cu. yds. roadway; 228,640 lbs. reinforcing steel; A. Schlaff, County Engr.

**Road and Bridge Construction.**—State Highway Commn., Montgomery, Ala.—Bids until Dec. 5 for 13.897 mi. Opelika-Dadeville road, Lee County, from city limits of Opelika to Tallapoosa County line; 105,688 cu. yds. gravel surfacing; 25,692 lbs. reinforcing steel in culverts; 149,470 lbs. reinforcing steel in bridges; 480 lin. ft. concrete piles; 50-ft steel span; concrete floor; plans, etc., on file from Div. Engr., and W. S. Keller, State Highway Engr.

**Road Construction.**—Kaufman County, J. E. Yates, County Auditor, Kaufman, Tex.—Bids until Nov. 28 to grade and construct drainage structures on 3 sections State Highway No. 15;

A—Sta. 0.00 to Sta. 348.00.

C—Sta. 380.00 to Sta. 570.12.

D—Sta. 669.30 to Sta. 1190.50; plans, etc., from L. M. Ferlet, County Engr., Terrell, Texas.

**Road Construction.**—State Highway Dept., Jefferson City, Md.—Bids until Dec. 2 for 3.78 mi. State road from Jefferson City to Eldon; State Proj. Route 15, Sec. 57.

**Road Construction.**—Ohio County Board of Commrs., H. C. Underwood, Clk., Wheeling, W. Va.—Bids opened Nov. 20 to grade 5000 ft. Pogue's Run road, Richland County, from Greggsville, Clinton and Potomac road to Wheeling, West Liberty and Bethany Pike road; plans, etc., from A. C. Hofman, County Road Engr.

**Road Construction.**—Uvalde County, Ditzler H. Jones, County Judge, Uvalde, Tex.—Bids opened Dec. 20 to build Uvalde-Leakey road; plans, etc., from County Engr.

**Road Construction.**—Fort Bend County, C. D. Myers, County Judge, Richmond, Tex.—Bids until Nov. 25 to grade, construct concrete structures and surface 10.4 mi. road between Harris County line and Brazoria County line; 15,490 cu. yds. shell; 8915 cu. yds. gravel; 11,030 cu. yds. crushed stone; 3445 cu. yds. cover material; 82,710 gals. oil; 530 cu. yds. concrete; 21,000 lbs. reinforcing steel; plans, etc., from Chas. E. Kendall, County Engr., Sugar Land, Tex., and State Highway Dept., Austin.

**Road Construction.**—Grayson County, D.

B. Stead, County Judge, Sherman, Tex.—Bids opened Nov. 23 for 3.69 mi. State Highway No. 5; 8669 cu. yds. gravel surfacing, furnished by County; 18,781 lbs. reinforcing steel; H. M. Scott, County Engr., Dennison, Tex.

**Road Construction.**—Knott County Commrs., Hindman, Ky.—Bids until about Jan. 2, to build Hindman to Whitesburg Highway.

**Road Construction.**—Perry County Fiscal Court, I. A. Smith, County Judge, Hazard, Ky.—Bids until about Jan. 2 for County's share of Kentucky-Virginia Highway, from Virginia border line to Lexington.

**Road Construction.**—Newberry County Commrs., M. C. Boutware, County Supvr., Newberry, S. C.—Bids until Dec. 1 for 12.6 mi. State Road No. 22, between point near Newberry and Broad River; 39,634 cu. yds. top soil surfacing; 45,870 lbs. reinforcing steel for drainage structures; plans, etc., on file or from State Highway Engr., Columbia, S. C. (Lately noted).

**Road Construction.**—Wilbarger County, E. L. McHugh, County Judge, Vernon, Tex.—Bids until Dec. 1 to grade 3.62 mi. State Highway No. 5, from 3 mi. east of Tolbert to Pease River; John B. Nahors, County Engr.

**Road Construction.**—Pittsylvania County Board of Supvrs., J. J. Whitehead, Chrmn., Chatham, Va.—Bids until Dec. 4 for 6.7 mi. soil road from Gretna to Pittsville; 13,000 cu. yds. top soil; J. S. Carter, County Engr.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Nov. 27 for following:

Mississippi County, 10.250 mi. State road from Charleston to New Madrid; gravel pavement; Federal Aid Proj. No. 198 A.

Mississippi County, 14.841 mi. State road from Anliston westward and southeastward; Federal Aid Proj. No. 198 B; Frank B. Newton, Div. Engr.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 2 to grade, construct culverts and lay 10-ft. concrete pavement on 4.5 mi. State road from Poplar to Asbury; plans, etc., from Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 2 for following:

Audrain County, 2.764 mi. State road east and west of Audrain; gravel surfacing; State Proj. Route 20, Sec. 9; Harry D. Griffith, Div. Engr., Hannibal, Mo.

Mississippi County, 2.5 mi. State road from East Prairie to New Madrid County line; State Proj. Route 55A, Sec. 2; Frank B. Newton, Div. Engr., Sikeston, Mo.

Johnson County, 4 mi. State road from Jackson County to Warrensburg; State Proj. Route 12, Sec. 5; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Lafayette County, 5 mi. State road from Jackson County line to Odessa; State Proj. Route 2, Sec. 7; A. C. Lingley, Div. Engr.

**Road Construction.**—Reeves County, J. F. Ross, County Judge, Pecos, Tex.—Bids about Nov. 24 for following:

4.53 mi. State Highway No. 27; 6445.7 cu. yds. gravel surfacing, to be furnished by County; 43,398 lbs. reinforcing steel.

3.75 mi. State Highway No. 17-A; 7942 cu. yds. gravel surfacing, to be furnished by County; 36,673 lbs. reinforcing steel; A. J. Adecock, County Engr., Balmorhea, Tex.

**Road Construction.**—San Patricio County, J. C. Houts, County Judge, Sinton, Tex.—Bids opened Nov. 23 to surface 15.06 mi. State Highway No. 9; bituminous topping;

141,332.4 sq. yds. cold rolled limestone rock asphalt; 1955.8 cu. yds. limestone screenings; reshape roadway, etc.; A. C. Pancoast, County Engr. (Lately noted).

**Road Construction.**—Union County, W. B. Deneen, County Engr., Union, S. C.—Bids until Nov. 28 for 2 mi. State Road No. 9, between Survey Sta., 100-50, and Spartanburg, Union County line; 6.903 cu. yds. top soil surfacing; plans, etc., on file and from State Highway Engr., Columbia, S. C.

**Road Construction.**—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 2 for grading and constructing drainage structures on following:

Atchison County, 2.4 mi. State road from Tarkio southward toward Fairfax; State Proj. Route 61, Sec. 4.

Atchison County, 5 mi. State road from Fairfax toward Tarkio; State Proj. Route 1, Sec. 7; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.

Butler County, 5.662 mi. State road from Poplar Bluff to Flisk; concrete surfacing; Federal Aid Proj. No. 204 A.

Butler County, 4.8 mi. State road from Poplar Bluff to Flisk; concrete pavement; Federal Aid Proj. No. 204 A; Frank B. Newton, Div. Engr., Sikeston, Mo.

Caldwell County, 5 mi. State road from Clinton County line to Hamilton; 18-ft. concrete or asphaltic concrete; State Proj. Route 8, Sec. 12.

Caldwell County, 5 mi. State road from Clinton County line to Hamilton; concrete or asphaltic concrete surfacing; State Proj. Route 8, Sec. 13; N. R. Sack, Div. Engr.

Christian County, 2.5 mi. State road from Lawrence County line to Billings; bituminous surfacing; State Proj. Route 16, Sec. 20; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

Clark County, 3.994 mi. State road from Wayland southward; gravel surfacing; State Proj. Route 9, Sec. 7; H. D. Griffith, Div. Engr., Hannibal, Mo.

Clinton County, 1.6 mi. State road from Grayson to Clay County line; State Proj. Route 33, Sec. 9.

Clinton County, 4 mi. State road from Grayson to Clay County line; State Proj. Route 33, Sec. 10; N. R. Sack, Div. Engr.

Cole County, 4.853 mi. State road from Jefferson City to Eldon; gravel surfacing; State Proj. Route 15, Sec. 52; R. W. Hodson, Div. Engr., Jefferson City.

Franklin County, 3.548 mi. State road east and west through Beaufort; gravel surfacing; State Proj. Route 12, Sec. 52.

Franklin County, 5 mi. State road from Sullivan to St. Clair; State Proj. Route 14, Sec. 66.

Franklin County, 2 mi. State road from Sullivan to St. Clair; State Proj. Route 14, Sec. 67; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Groves, Mo.

Harrison County, 4 mi. State road west of Bethany; concrete surfacing; State Proj. Route 4, Sec. 24; N. R. Sack, Div. Engr.

Henry County, 1.5 mi. State road from Calhoun County northwest; 18-ft. bituminous macadam or 6-in. 18-ft. concrete pavement; State Proj. Route 24, Sec. 4.

Henry County, 1.35 mi. State road from Clinton to Windsor; bituminous macadam or 18-ft. concrete pavement; Federal Aid Proj. No. 133 A, Route 5.

Henry County, 5 mi. State road from Pettis County line at Windsor, southwestward; concrete surfacing; Federal Aid Proj. 133 A, Route 5; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Howell County, 4.94 mi. State road from Ozark County line to West Plains; State Proj. Route 80, Sec. 7, Howell County, 4.985 mi. State road from Ozark County line to

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Westplains; State Proj. Route 80, Sec. 8; J. H. Long, Div. Engr., Willow Springs, Mo.

Jackson County, 4 sections, 3, 4, 5, 6; 18 mi. on Sni-A-Bar road from Blue Ridge road east; concrete surfacing and pavement; State Proj. Route 2; A. C. Lingley, Div. Engr.

Jefferson County, 4.1 mi. State road from Festus to St. Genevieve County line; gravel surfacing; State Proj. Route 25, Sec. 2.

Jefferson County, 4 mi. State road from Festus to St. Genevieve County line; gravel surfacing; State Proj. Route 35, Sec. 3; S. M. Rudder, Div. Engr.

Johnson County, 4 sections, 26, 27, 28, 29; 16 mi. State road south of Warrensburg; State Proj. Route 13.

Laclede County, 5 mi. State road north of Lebanon, gravel surfacing; State Proj. Route 5, Sec. 73; H. P. Mobberly, Div. Engr.

Macon County, 2 mi. State road from Macon south; gravel surfacing; State Proj. Route 7, Sec. 21; A. R. Towse, Div. Engr., Macon, Mo.

Montgomery County, 3.5 mi. State road east of Danville; concrete surfacing; State Proj. Route 2, Sec. 57; R. W. Hodson, Div. Engr.

New Madrid County, 3 mi. State road east of Risco; gravel surfacing; State Proj. Route 82, Sec. 3; F. B. Newton, Div. Engr.

Newton County, 5 mi. State road from Tipton Ford to Neosho; concrete surfacing; State Proj. Route 1, Sec. 104.

Newton County, 2 mi. State road from Tipton Ford to Neosho; concrete surfacing; State Proj. Route 1, Sec. 105.

Newton County, 5 mi. State road from Neosho to Arkansas State line; State Proj. Route 1, Sec. 106; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Putnam County, .871 mi. State road from Unionville northward; gravel surfacing; State Proj. Route 5, Sec. 2.

Putnam County, 2.746 mi. State road from Unionville southward; gravel surfacing; State Proj. Route 5, Sec. 3; A. R. Towse, Div. Engr.

St. Charles County, 3 Sections, 68, 69, 71; 7.5 mi. State road from Wentzville to St. Peters; concrete surfacing; State Proj. Route 2; S. M. Rudder, Div. Engr.

Scotland County, 3.564 mi. State road south of Memphis; gravel surfacing; State Proj. Route 15, Sec. 4; H. D. Griffith, Div. Engr., Hannibal, Mo.

Sullivan County, 5 mi. State road from Milan to Kirksville; State Proj. Route 6, Sec. 33.

Sullivan County, 2.5 mi. State road from Milan to Green City; State Proj. Route 6, Sec. 35; A. R. Towse, Div. Engr.

Webster County, 2.595 mi. State road from Green County line to Seymour City, Mo.; gravel surfacing; State Proj. Route 16, Sec. 35; H. P. Mobberly, Div. Engr.

Sand (Moulding), etc.—John P. Gartin, Ashland, Ky.—To correspond with persons interested in mining of moulding sand and also coal mining.

Saws (Band and Circular).—See Woodworking Machinery.

Scrapers (Wheel).—Virginia Machinery & Well Co., Box 1122, Richmond, Va.—20 wheel scrapers, first class, second-hand; purchase or rental basis.

Sewers and Sewer Pipe.—City of Sanford, Fla., C. J. Ryan, City Mgr.—Bids until Dec. 11 for constructing sewer system, approx. quantities, 22,000 ft. of 6 to 24-in. sewer, 735 ft. of 36 in. circular sewer, 900 ft. of 36-in. circular sewer, 750 branches of 8 to 21-in. diam. pipe, sewer pipe and segment block to be furnished by City f. o. b. Sanford, Fla. Also receives bids until Oct. 23 for following sewer pipe: Approx. 22,235 ft. of 6, 8, 10, 12, 15, 18, 21 and 24-in. No. 1 sewer pipe, 737

ft. 36-in. circular sewer, 915 ft. of 33-in. circular sewer, 740 branches, S. 10, 12, 15, 18 and 21-in. diam. pipe; pipe to be delivered to Sanford as ordered during next 6 months; specifications on file at office of City Mgr., or at office of Fred T. Williams, Engr.

Sewer Construction.—City of Clarksburg, W. Va., D. H. Hamrick, Clk.—Bids until Nov. 28 to construct and lay approx. 1200 lin. ft. vitrified sewer pipe, sizes from 6 to 8-in.; 2 manholes, on High St., Adams-ton and alley in North View; further information on application to City Mgr. and City Engr.

Shovel (Revolving).—Arkansas River Sand Co., N. C. Dunn, Mgr., Arkansas City, Kan.—To purchase revolving shovel, 1 yd. capacity.

Sign (Illuminated), etc.—J. Leo Kolb, 923 New York Ave., Washington, D. C.—To correspond with mfrs. of or dealers in illuminated signs, am desirous of using either clock or sign for front of building.

Steel (Planned), etc.—Norfolk & Western Ry. Co., J. H. Clemmitt, Purchasing Agent, Room 351, N. & W. Ry. Bldg., Roanoke, Va.—Bids until Nov. 29 for 100 cast steel side frames, Contr. serial No. AA-218; 550 sheets planned steel, Contr. serial No. AA-219; further information on application.

Switchboard.—Wilson-Hock Co. (Mchy. Dealers), City Point, Va.—Dealers prices on private branch exchange switchboard with telephones and complete equipment suitable for 15 phone plant installation; both common battery and magneto apparatus will be considered; slightly used equipment preferred.

Textbooks, etc.—Texas State Textbook Comsn., S. L. Staples, State Secy., Austin, Tex.—Bids until Dec. 4 for contracts to furnish textbooks on subjects to be used in public free schools; further information on application.

Textiles.—Home Supply Co., Box 688, Florence, S. C.—To correspond with mfrs. or jobbers of following, purchasing wholesale only: Lace curtains, bed spreads; portieres, rugs, blankets, sheets, pillow cases, dining table cloths, center table cloths, bureau and mantle scarfs.

Tower (Water).—City of Victoria, Tex., The Mayor.—Bids until Dec. 2 for one 300,000 gal. capacity water tower.

Waterwheels.—W. E. Miller, 1600 10th Ave., Hickory, N. C.—To purchase 1½ to 5 H. P. waterwheels, under low head.

Water and Power Plant Improvements.—City of Lafayette, La., Robt. L. Moulton, Mayor.—Bids until Dec. 4 at Trustees of Finance office, for following equipment, machinery, labor and material for improvements to water and power plant, including foundations, piping, and following list of mchy. furnished and delivered f. o. b. cars Lafayette: Equipment as follows:

Two 300 H. P. water tube boilers, 2251 lbs. with super heaters, oil burners, soot blowers; 500 K. W. steam turbine generator unit, 225 lbs. steam pressure, 150 degrees Fahrenheit superheat, 27½ in. vacuum; unaflow engine, 225 lbs. 150 degrees Fahrenheit superheat, 26 in. vacuum, for direct connection to 312 K. V. A., 85% P. F., generator, 200 R. P. M.; 312 K. V. A.; 200 R. P. M. engine type generator, 3 phase, 60 cycle, 2200 volts with belted exciter; 14 panel switchboard; 8400 lb. surface condenser, 27½ in. vacuum, 85 degrees water; 4200 lb. surface condenser, 26 in. vacuum, 85 degrees water; system of spray heads; two 1500 G. P. M. deep well pumps and slip ring motors, pumps 200-ft. head, 75 ft. below ground surface; two 1500 G. P. M. booster pumps and motors, suction 12 ft. head pressure, discharge 240 ft. head; four 10,000 gal. oil

storage tanks, or one concrete tank, steam exhaust, hydraulic, electrical and oil connection.

Bids will also be received on following alternate plant equipment and construction, two oil engine units, full Diesel totaling approx. 500 K. W. with interchangeable parts, for direct connection to generator; two generators, 3 phase, 60 cycle, 2200 volts, total 500 K. W. suitable for direct connection to above oil engines; 14 panel switchboard; two 1500 G. P. M. deep well pumps and slip ring motors, pumps 200 ft. head, 75 ft. below ground surface; two 1500 G. P. M. booster pumps and motors suction 120 ft. head pressure, discharge 240 ft. head; two 10,000 gal. oil storage tanks, oil, hydraulic and electrical connections.

Construction consists of the following: Extension to present power house building; brick building over deep well and pumps; pole line improvements; 5 ft. 150 ft. chimney and foundations; spray cooling pond, unloading, moving and setting on foundations the above mchy. and equipment; building foundations for above mchy. and equipment, setting two 300 H. P. boilers; erecting all steam, exhaust, hydraulic, electrical and oil connections; boring 2 deep wells; moving out of present power plant the following: centrifugal pump and motor; 2 steam fire pumps; 2 steam air compressors; oil engine unit; specification obtainable from the J. B. McCrary Co., Engrs., Atlanta, Ga., and Lafayette, La., and from Trustees.

Water, Sewerage and Electric Light Construction.—Comsn. of Public Works, Ridgeway, S. C.—Bids until Dec. 4 for following work: Electrical distribution system; 13,200 volt transmission line with substations, from Ridgeway to Winsboro, S. C.; water distribution system consisting of 8, 6 and 1½-in. pipe, valves, hydrants, etc.; sanitary sewer systems; two 8-in. wells; one 60,000 gal. steel tank mounted on 100 ft. tower with alternate bids on one 75,000 gal. tank on 100 ft. tower; plans and specifications on file in office of J. S. Edmunds, City Clk. and Treas.; also Ryan Engineering Co., Engrs., Arcade Bldg., Columbia, S. C.

Well Drilling.—City of Victoria, Tex.—Bids until Dec. 4 for drilling two 10-in. wells; specifications obtainable at office of City Engr.

Wheels (Water).—Planters Supply Co., Gough, Ga.—Prices on water wheels for cornmeal mill, supply of water will not develop more than 20 H. P., water is 10 ft. deep at joint that will enter the wheel.

Wire.—See Electric Light Plant Equipment.

Woodworking Machinery.—E. W. Dodd, Kingsport, Tenn.—Prices on mchy. for mfr. of furniture; all direct motor driven.

Woodworking Machinery.—R. W. Parks, 1832 S. Wichita St., Wichita, Kan.—To purchase woodworking machinery.

Woodworking Machinery.—F. Fry, Newkirk, Okla.—To purchase woodworking mchy., including saw, wood lathe and planer.

Woodworking Machinery.—J. P. Nanney Lumber Co., Morristown, Tenn.—Prices on following mchy., second-hand preferred: four side 24-in. planer and matcher with Shimer heads; single end tenonner; chain mortiser for doors and sash; 12 or 16-in. jointer; 36-in. band saw; circular saw; prefer machines motor driven but will consider motors separate.

Woodworking Machinery.—Southern Door and Glass Co., 218 2nd St., Nashville, Tenn. Bids after first of year on woodworking mchy. for small sash and door factory.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.



# Financial News

## New Financial Corporations.

Ala., Birmingham—Employers' Mutual Insurance Co., inceptd., with William H. Stockham, Pres.

Ala., Huntsville—Lyles Brokerage Co., inceptd. with Charles D. Lyle, Pres.; W. E. Leroy Lyles, Secy. and Treas.

Fla., Jacksonville—Fidelity Savings Investment Co., capital \$25,000, inceptd. with R. E. Echols, Pres.; T. U. Sparks, Vice-Prest.

Fla., Miami—Riverside Real Estate and Mortgage Co., capital \$25,000, inceptd. with John T. Vickery, Pres.; Clifford A. Vickery, Vice-Prest.; Robert E. White, Secy.

Fla., Miami—Keystone Loan and Discount Co., capital \$100,000, inceptd. by David Afremow, Sarah Afremow, Daniel Cromer, Memmel Cromer and others.

Fla., Sanford—F. F. Dutton & Co., capital \$125,000, inceptd. with F. F. Dutton, Pres.; W. Gwinn Fox, Vice-Prest.; R. M. Wetherell, Secy. and Treas.

Fla., Sanford—Welaka Investment Co., capital \$150,000, inceptd. with J. T. Blalock, Vice-Prest.; J. W. Blalock, Secy.

Fla., Tampa—Commonwealth Investment Corp., capital \$50,000, inceptd. with Sam Gordon, Pres.; Alex Hecht, Vice-Prest.; Harry N. Sandler, Secy.

Ga., Atlanta—Lowry National Bank and Trust Co., consolidated with \$7,000,000 capital; Thomas K. Glenn, Pres.

Ga., Savannah—Discount Co. contemplates opening office in Savannah with N. J. Gillespie and Clarence W. Miles, Mgrs.

Ky., Ashland—The Third National Bank conversion of The Ashland Day & Night Bank, capital \$100,000; correspondent: John W. Woods.

Ky., Dundee—Bank of Dundee, capital \$15,000, inceptd. by Garfield Brown, C. C. King, H. C. Acton and others.

Md., Baltimore—Overlea Building & Loan Assn., 2 E. Lexington St., capital \$100,000, inceptd. by Anthony J. Smetana, James F. Farmer and Frank T. Kasik.

Md., Baltimore—Merit Building and Loan Assn., capital \$500,00, inceptd. by Isadore Greenwood, Michael Israelson, Jack Lewis and others.

Mo., Carthage—Mutual System Realty & Investment Co., capital \$75,000, shareholders: James Luke, S. C. Boggess, Thomas Hackney.

Mo., St. Louis—National Housing Securities Corp., capital \$100,000, inceptd. by Jos. McCoy, Elmer E. Farley, Grant Kneeland, Oklahoma City.

Mo., St. Louis—Wagner-Grant Bell Realty Co., capital \$45,000, shareholders: E. A. Wagner, E. W. Grant, W. H. Bell.

N. C., Charlotte—Ten County Loan Assn. contemplates merging as the Mecklenburg National Farm Loan Assn. A. B. Reeman, Hendersonville, interested.

N. C., High Point—Atlantic Insurance and Realty Co., capital \$100,000, inceptd. by Charles L. Amos, R. B. Terry, M. C. Crowson, J. A. Mizell and others.

N. C., Winston Salem—Traders, Inc., capital \$100,000, inceptd. by Messrs. R. F. Dalton, H. D. Shutt and B. B. Walker.

Okla., Muskogee—The Security National Bank conversion of The Security State Bank, capital \$100,000; correspondent: M. G. Young.

Tenn., Chattanooga—Highland Park Trust and Savings Bank, capital \$35,000, inceptd. by Dr. J. L. Austin, Henry Borger, I. L. Bridges, P. W. Worley and W. E. Nantz.

Tenn., Knoxville—City National Bank and American National Bank consolidated as the City National Bank combined capital \$7,000,000, W. S. Shields, Pres.; R. W. Perry, Cashier.

Tex., Alpine—State National Bank conversion of The Alpine State Bank, capital \$30,000; correspondent: Benj. F. Herkeley.

Tex., Galveston—Galveston Industrial Loan and Investment Co., capital \$65,312, inceptd. by J. J. Ryan, L. G. Wigbels, C. H. Compton.

Tex., Houston—Sellie & Frank's Loan Office, capital \$15,000, inceptd. by O. P. Sellingsloh, F. B. Walker, E. Y. Harpole.

Tex., Montague—Security Abstract Co., capital \$15,000, inceptd. by R. W. Grimsley, C. R. Hart and Paul Donald.

Tex., Teague—Klirvin State Bank consolidated with the First State Bank, R. M. Thompson, Pres.

Va., Lynchburg—Mutual Building and Loan Assn., capital \$100,000, inceptd. with C. L. Snidow, Pres.; R. H. Anderson, Secy.; B. C. Baldwin and others.

W. Va., Charleston—Atlas Mortgage and Finance Co., capital \$100,000, inceptd. by E. T. Baird, J. D. Foster, Jr., W. A. Abbott, S. E. Cowin.

## New Securities.

Ala., Brewton—Refunding—Escambia County Court Commrs., M. R. McClellan, Probate Judge receives bids until Dec. 1 for \$75,000 bonds.

Ala., Gadsden—Indebtedness—Etowah County voted \$125,000 bonds. Address County Commrs. (Lately noted).

Ala., Mobile—Water and Fire Equipment—City, Mayor Taylor will vote on \$400,000 bonds.

Ala., Mobile—School—City contemplates voting on \$350,000 bonds Jan. 23. Address School Board.

Ark., Dermott—Road—Gaines Landing Road Dist., Chicot County Commrs. sold \$100,000, 6% bonds to M. W. Ellins & Co., Little Rock.

Fla., Blountstown—School—Calhoun County School Bd., M. Richard, Chrmn. sells \$5000 bonds.

Fla., Bradentown—Sewers—City votes Dec. 19 on \$4000 bonds. Address The Mayor.

Fla., Bradentown—Street—Water Works—Municipal Pier and Waterfront—Park—City votes Dec. 19 on bonds, including \$76,000 for streets, \$4000 for water works, \$135,000 for municipal pier and waterfront, and \$2000 for park. Address The Mayor.

Fla., Bradentown—Drainage—Bd. of County Commrs. opens bids for \$12,251.34 bonds.

Fla., Bushnell—Road—Sumter County sold \$135,000 bonds. Address County Commrs.

Fla., De Land—Road—Volusia County Commissions, New Smyrna Road and Bridge Dist. votes Dec. 19 on \$600,00 bonds. Lately noted.

Fla., Ft. Meyers—Roads—Smith, Barnes, Mickler & McLeod, purchased bonds from Lee County, Address County Commrs.

Fla., Miami—Schools—Dade County Commrs. sold \$1,025,000 bonds to First National Bank.

Fla., Orlando—Road—A. Shultz, Chrmn., Board of Commissioners receives bids until Dec. 12 for \$528,000, 5% bonds.

Fla., Starke—Water and Light—Caldwell and Co., Birmingham, Ala., purchased \$36,000 bonds from The Bd. of Bond Trustees.

Ga., Atlanta—Street—B. Graham West, Comptroller receives bids until Nov. 20 for \$41,000, 5%, \$1000 denom. bonds.

Ga., Moultrie—Road—First National Bank purchased \$100,000 bonds. Address The Mayor.

Ky., Frankfort—School—City voted \$150,000 bonds. Address The Mayor.

Ky., Hazard—Road—Perry County Fiscal Court, I. A. Smith, County Judge, voted \$500,000 bonds. (Lately noted.)

Ky., Louisville—Auditorium and Hospital—City voted \$750,000 auditorium bonds and \$750,000 hospital bonds. Address The Mayor.

Ky., Ludlow—Fire Dept. and City Building—City voted \$40,000, 5% bonds. Address The Mayor. (Lately noted).

Ky., Pikeville—Road and Bridge—C. W. McNear & Co., Chicago, purchased \$200,000, 5%, \$1000 denom. bonds. Address The Mayor.

La., Baton Rouge—School—East Baton Rouge Parish votes Dec. 12 on \$50,000 bonds for high school at Baker.

La., Homer—Sewer—Mayor and Bd. of Aldermen, Sewerage Dist. No. 1, receives bids until Dec. 7 for \$120,000 bonds. Address The Mayor.

La., Many—Road—Sabine Parish sold \$400,000, 6% bonds to Sutherland, Barry & Co., Inc., New Orleans and Shapker & Co., Chicago.

La., Monroe—Municipal Improvement—City contemplates voting on \$200,000 bond issue. Address The Mayor.

La., Springville—Road—Livingston Parish Police Jury, voted \$80,000 bonds.

Md., Easton—Gas Plant—Town votes Dec. 14 on \$17,000 bonds. Address The Mayor.

Miss., Crystal Springs—Sewerage—City votes Dec. 2 on \$15,000 bonds. Address The Mayor.

Miss., Greenwood—Drainage—Tech, Sub-Drainage Dist. sold \$38,700 bonds to A. J. Tigrett & Co. at par and accrued interest.

Miss., Vicksburg—Public Improvement—Peoples Savings Bank & Loan Co., Vicksburg, purchased \$665,000, 5% bonds. Address The Mayor.

Miss., Yazoo City—Refunding—City sold \$150,000, 6% bonds. Address The Mayor. (Lately noted.)

Mo., Cameron—School—City voted \$80,000 bonds. Address The Mayor. (Lately noted).

Mo., Jefferson City—Highway—State Highway Comsn. sells \$5,000,000 bonds.

Mo., St. Louis—Public Improvement—City votes Feb. 9 on \$88,372,500 bonds. Address The Mayor.

Mo., Sullivan—Water—Mercantile Trust Co., St. Louis, purchased \$30,000, 5%, \$1000 denom. bonds. Address The Mayor.

Mo., Vandallia—School—City votes on \$70,000 bonds. Address The Mayor.

N. C., Bostle—Light and Power—City, J. D. Clemmer, Mayor receives bids until Nov. 24 for \$4000 bonds.

N. C., Bridgeton—School—C. A. Ryman, Secy. Bd. of Trustees, Bridgeton Special Tax School Dist. opens bids Nov. 16 for \$15,000, 6%, \$500 denom. bonds.

N. C., Halifax—County Home—Hanchett Bond Co., Chicago, purchased \$40,000, 5% bonds. Address Halifax County Commrs.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

N. C., Hookerton—Water and Light—City. J. E. Albritton, Clk. receives bids until Nov. 27 for \$35,000, \$1000 denom. bonds.

N. C., Lincolnton—Electric, Funding, Water, and Sewer—City sold \$118,000, bonds to Sidney Spitzer & Co. Address The Mayor.

N. C., Mt. Holly—Street—Central Bank & Trust Co., purchased \$35,000, 6% \$1000 denom. bonds. Address The Mayor. (Lately noted).

N. C., New Bern—Drainage—Bd. of Drainage Commrs. Little Swift Creek Drainage Dist., Beaufort County Drainage Dist., No. 10 receives bids until Dec. 7 for \$185,000 bonds.

N. C., Waynesville—Water and Street—City, T. C. Breeding, Town Clk., receives bids until Nov. 20 for \$50,000, \$1000 bonds, interest not exceeding 6%.

N. C., Whiteville—Water and Light—Town voted \$80,000-bonds. Address The Mayor.

Okla., Burbank—Water and Sewer—T. J. Pinkstone, Town Clk. opens bids Nov. 15 for \$88,000, 6%, \$1000 denom. bonds.

S. C., Bamberg—School—School Dist. sold \$35,000 bonds to a Chicago firm.

S. C., Easley—Paving—Indebtedness—G. E. Allen, Mayor, will vote within 30 days on \$80,000 bonds.

S. C., Florence—Indebtedness—Florence County sold \$318,000 bonds to Eyer & Co., New York, at par. Address County Commission.

S. C., Greer—Road, Water, Sewer—City contemplates voting on \$65,000 bonds. Address The Mayor.

Tex., Beaumont—Auditorium, Library, Wharf, Docks, Water works and Municipal Improvement—City will issue \$2,350,000 bonds. Address The Mayor.

Tex., Canyon—School—Canyon Independent School Dist. will vote Nov. 25 on \$100,000 bonds.

Tex., Corpus Christi—Port Improvement—City voted \$1,000,000 bonds. Address The Mayor. (Lately noted).

Tex., Hamilton—Water—City voted \$90,000 bonds. Address The Mayor.

Tex., Mesquite—Water and Sewer—John S. Lawrence, Mayor, plans selling \$60,000 bonds to a Temple firm.

Tex., Nacogdoches—Road — Nacogdoches County contemplates voting on \$775,000 bonds. Address County Commrs.

Tex., Spearman—Light and Water—City votes Nov. 21 on \$55,000 6% bonds. Address The Mayor.

Tex., Taylor—Auditorium—City voted \$32,000 bonds. Address The Mayor.

Tex., Wylie—Waterworks—City voted \$50,000 bonds. Address The Mayor. (Lately noted).

Va., Graham—Street—City plans voting in January on \$50,000 bonds. Address The Mayor.

Va., Norfolk—Road and Bridge—Norfolk County will issue \$130,000 bonds. Address Bd. of Suprvs.

## Financial Notes.

Md., Baltimore—U. S. Casualty Co., increases capital to \$1,000,000, Edson S. Lott, Pres.

## Book Reviews.

Mental Causes of Accidents. By Boyd Fisher. Houghton Mifflin Company, Boston. 1922.

Through wide experience in industrial management in many large plants, the author has had opportunity to study and analyze the psychological side of industrial accidents. Information on this subject has been gathered by the author and compiled in a

320-page book. It is hoped the book will prove of value to all those who deal with labor and are faced with the problem of the causes and prevention of industrial accidents. The book is divided into ten chapters, and the subject is treated under the following heads: The unguarded mind; the puzzled mind; the misguided mind; the stubborn mind; the involuntary mind; the diverted mind; the troubled mind; the physical mind; the tired mind; accident hygiene; and the self-guided approach to psychology.

The Gantt Chart. By Wallace Clark. New York: The Ronald Press Company. 1922. \$2.50.

Aptly described upon its title page as "a working tool of management," this volume supplies business executives with a simple and inexpensive means of gathering all essential facts necessary to obtain complete control of work for which they are responsible. Concisely it explains the principles and methods of construction of the chart, besides illustrating many ways for its application as shown by experience. In these charts a division of space represents both an amount of time and an amount of work to be done in that time. Lines drawn horizontally through that space show the relation of the amount of work actually done in that time to the amount of work scheduled. Thus, information can be concentrated upon a single sheet which would otherwise require 37 sheets. It is stated, if shown by means of the usual type of curve sheets. The book has 157 pages in 10 chapters, throughout which are shown facsimiles of 43 charts together with 20 detail diagrams. There are appendices by Walter N. Polakov and Frank W. Trabold.

The Great Experiment. By Thomas Diflon O'Brien. New York: The Encyclopedia Press. 1922.

This book is a studious and impressive consideration of our political organization known as the United States of North America, which was termed by De Tocqueville "The Great Experiment" in his work "Democracy in America." Perusal of it should firmly establish as never before in the minds of our citizens' confidence in the righteousness and the manifold advantages of our Constitution and of the government that we enjoy thereunder. The author was formerly an associate justice of the Supreme Court of Minnesota and he has dedicated his work to the memory of his father, who, he says, "though himself alien born, loved and taught his children to revere and love the American republic." It is but a small volume, yet in its compass of 120 pages Judge O'Brien shows that individual liberty is best preserved by a written constitution which contains proper restraints upon the exercise of arbitrary power, and which is made effective through a tribunal having the power to test every governmental activity by its conformity with fundamental constitutional provisions intended for the protection of natural human rights. He gives strong warning against the insidious advances attempted by men of anarchistic tendencies, saying: "Generally, people of this description conceal their real purposes and principles. They are very careful before what audiences they ridicule the existence of God or the sanctity of the family. Nevertheless, the destruction of those Christian beliefs is a part of their real purpose. While such persons are the intentional enemies of organized society, their number in America is comparatively small. Their direct influence is very limited and it their ugly doctrines were fully understood,

their propaganda would not be tolerated for an hour." Again he warns against certain other folk, saying: "But we have a large class of good intentioned and well disposed citizens who are so impatient of control that they denounce all constitutional restraints upon governmental power as barriers to progress. In their desire to improve conditions and advance human happiness, they would sweep aside all the provisions of the Constitution. \* \* \* A constant interference by the State, (meaning the general government), "in the details of life and living would not only be intolerable and destructive of individual liberty, but would inevitably tend to destroy the initiative so characteristic of the American citizen, and would result in a state of official tyranny as cruel and destructive of progress and happiness as the tyranny of any king or emperor."

## Trade Literature.

### Testimony As to Copper Steel.

The American Sheet & Tin Plate Co., Pittsburgh, Pa., have issued a finely prepared booklet bearing the title "The Testimony of a Decade," and which sets forth very clearly and conclusively the results of service tests and the superior advantages of the Keystone copper steel alloy for sheet and tin mill products. It is explained that this copper steel is "an alloy made by the addition of a certain percentage of copper to well-made steel, thereby greatly increasing its lasting or rust-resisting qualities in actual service." Copper steel was placed on the market for the first time in 1911 when 5311 tons were sold. Now it has a production of 300,000 tons a year. The various uses of the product are enumerated in the booklet.

### Youngstown As a Center of Industry.

"Youngstown's Invitation to Industry" is the title of a 36-page booklet issued by the Diversified Industries Committee of the Youngstown Chamber of Commerce, Youngstown, Ohio. It gives a summary of facts portraying the advantages, the resources and the opportunities which that city offers to manufacturers and distributors of products. A feature of the publication is a circular diagram showing Youngstown as an industrial center and giving the distances and the hours of travel to important cities. The illustrations show the plants of a number of the manufacturing plants which have made Youngstown famous in the industrial world and the descriptive matter is full of valuable information.

### "Duraloy" Described.

Bulletin No. 221, a substantial, finely printed folder relating to the numerous superior qualities of "Duraloy," (chrome iron) for resistance to oxidation, corrosion and abrasion has been issued by the Cutler Steel Co., Pittsburgh, Pa. It contains a table covering the physical properties of the metal and complete descriptions of its development, composition and characteristics, strength, machining qualities, welding qualities, etc. The general sales office of the company is in the Hudson Terminal Building, New York City.

### Single Stage, Double Action Pumps.

Another of the fine bulletins of the Dayton-Dowd Company, manufacturers of centrifugal pumps, Quincy, Ill., is No. 249, superseding No. 244, and it relates to their Type CE single stage, double action pump. The bulletin is beautifully illustrated showing installations as well as detailed pictures of

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the pumps, and there are also valuable tables relating to the selection and the use of pumps. Copies of the bulletin may be obtained from any of the company's offices, those in the South being at Baltimore, Atlanta, Birmingham, Charlotte, Louisville, Memphis, New Orleans, and Richmond, besides offices in adjacent cities such as Cincinnati, St. Louis and Kansas City.

#### A Portable Crane That Travels Fast.

The Byers Machine Co., Ravenna, Ohio, have issued a finely illustrated folder bulletin describing their "Truckcrane." It is a strong, reliable crane of good capacity and speed, combined with the ability to move around easily while at work or to travel quickly from one job to another. It is stated that one of these machines traveled from Ravenna to Detroit, 225 miles, in 25 running hours, with trailer and bucket attached.

#### Of Value to Sales Managers.

Some time ago the First National Bank of Boston published and distributed to interested persons a volume entitled "Markets of the World." A supplementary series, covering the United States and Canada, and purposely omitted from the original edition, is now published. It is in loose leaf form for insertion with the first series in the binder already distributed. This addition to the series is felt will enhance in great degree the value of "Markets of the World." It is composed of a series of commercial maps and statistical data and it also includes an unusual compilation of useful commercial information in convenient form. It has been prepared especially for the use of sales managers to determine the market possibilities of any given state, province or territory, and it is exceedingly complete covering everything of value to such business men.

October. Among business recently booked was an order for \$1890 worth of grate bars for the Eastman-Gardiner Co., of Laurel, Miss., besides several lesser orders from different points in the Carolinas, as well as others from the Carter Ink Company, of Boston, and the Sherwin-Williams Paint Co., of Cleveland. According to indications business will be even greater before the end of the year.

#### Important Business Change.

The Reliance Gauge Column Company, 5902 Carnegie Ave., Cleveland, Ohio, have sold the Cleveland Clutch business to the Western Engineering & Manufacturing Co., 360 E. Grand Ave., Chicago, Ill., which has been incorporated as a subsidiary of the Western Valve Bag Co., for the purpose of taking over the manufacture and marketing of this clutch. Increased demand in the steam specialty line of the Reliance Gauge Column Co., (a business in which they have been widely known for 40 years), together with the developing of their new method float, caused them to dispose of this valuable business. Due to larger shop equipment and greater engineering organization, the new company, it is stated, will be able to insure better service.

## INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily from non-advertisers as from advertisers.

#### Change of Location.

The Carloss Well & Supply Co., 116 South Front St., Memphis, Tenn., have recently moved to an uptown location and are enlarging their line to be one of the largest well supply houses in that business territory. They also handle a full line of pumping equipment and boiler room supplies.

#### District Sales Office Established.

The Osgood Company, of Marion, Ohio, manufacturers of steam shovels, have established a district sales office at 50 Church St., New York City, under the charge of M. E. Pullen. All business formerly handled by M. E. Davis, the former New York representative will now be handled through the district office.

#### Rolling Steel Doors, Partitions, Etc.

The J. G. Wilson Corporation, having executive offices at 11 East St., New York City, and with factories at Norfolk, Va., have issued four folders describing and illustrating a number of new features which they have embodied in their products, that include section fold partitions, rolling steel doors, hygienic wardrobes, rolling partitions, etc.

#### Chicago Office Opened.

The Norwalk Iron Works Co., pioneer builders and manufacturers of air and gas compressors, and also refrigerating machinery, with general offices and works at South Norwalk, Conn., have opened an office at 621 N. Washington Boulevard, Chicago, Ill., under the charge of L. R. Bremser, who for 13 years was associated with the Gardner Governor Co. He is thoroughly familiar with the compressor business.

#### Promoted to Chief Engineer.

W. W. Sayers, of the Link-Belt Company, has been promoted to the position of chief engineer of the company's Philadelphia works and of its eastern operations. For many years he was a popular representative of the company in their Chicago territory in lines related to power house machinery, coal storage, Peck carriers, crushers, etc., and later, when in charge of the locomotive crane department. His headquarters will now be at the Philadelphia office.

#### Important Manufacturing Consolidation.

The Street Bros. Machine Works and the Patten Manufacturing Co., both well known and prominent manufacturers of hoisting machinery at Chattanooga, Tenn., and prominently identified with the construction machinery industry for the last 15 or 20 years, were consolidated November 1 and their products will henceforth be manufactured and marketed by Street Bros. Machine Works, Inc., the charter of Street Bros. Machine Works being expanded. J. H. Street continues as president of the enlarged company and J. W. Burrell, sales manager of the Patten organization is sales manager. The Street extensive line of large hoisting equipment, together with the complete line of small and medium sized Patten hoists, will constitute a most complete line of hoisting equipment, consisting of all sizes of electric, gasoline, steam and belt hoists, mine hoists, cargo hoists, capstans, winches, wood and steel derricks, derrick fittings, cableways, log loaders and log skidders, both ground and aerial, etc.

#### Important Sale of Sawmill Property.

Elsewhere in this issue will be found a formal announcement of the coming sale of the properties of the Boone Fork Manufacturing Co., located respectively at Shulls Mills, N. C., and Murphy, N. C. The Shulls Mills property will be disposed of at public sale at Boone, N. C., on January 5, 1923, and the Murphy property at Murphy, on January 9, 1923. There are two complete band saw mills operated by electricity, besides power plants, railroads, railroad equipment, planing mill, by-product plants, etc., and all are ready to operate. The receivers of the company are located in the Asheville Citizens Building, Asheville, N. C. Further particulars will be found in the announcement.

#### Increasing Business Reported.

The Thomas Grate Bar Co., Birmingham, Ala., Ed. L. Thomas, president, report that October was marked by the greatest business they have had in several years and, furthermore, that November will be greater than

#### Book Review.

Why Manufacturers Lose Money, By Robert Grimshaw. New York: D. Van Nostrand Company. 1922. \$2.

The causes of loss in industries are separately treated by the author under seven heads, viz., financial, commercial, organizational, accounting, technical, personal and miscellaneous, each of which has appropriate sub-headings and minor divisions, cross references being made when desirable. Of these classifications the author modestly says that they have given him no end of trouble and may please his critics even less than they do him. He thinks, however, that his book should at least serve as food for thought and incentive to action. It is the outcome of lectures on cost reduction delivered several years ago and supplemented by an article published in "The Foundry," on "Why Foundries Lose Money," and it does, he remarks, name practically all of the principal and most of the minor causes of loss. In citing instances of carelessness and oversight which resulted in loss to manufacturers, Mr. Grimshaw relates an amusing anecdote now and then; for instance, he says that a dynamite factory in this country some years ago was purchasing infusorial earth from Germany when it had a deposit of the same earth upon its own property here. Of course this was an extreme case, but it indicates the tendency among some folks to fail to use their brains and their eyes at all times in their business activities. Mr. Grimshaw believes in high wages and high salaries for the best of workers; a cheap stenographer, he says, owing to inefficiency, will waste more time than the saving in salary would pay for. To the question: "Is any manager worth \$100,000 a year?" his answer is "Certainly. There are dozens of such. A man is worth any salary whatever when it is proved that his efforts alone bring in double that amount of immediate net profit, over and above the normal earnings produced by the other factors." He heartily approves of the large annual salaries of the big leaders in business life when they have shown themselves to be worth what they receive.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.



## Possibilities of the Meat Packing and Live Stock Industry in Georgia.

In connection with the activities of the White Provision Co. of Atlanta, which has recently increased its capital stock from \$600,000 to \$1,000,000, the Atlanta Constitution refers to the achievements and present progress of the company as showing what such enterprises are doing toward the agricultural and commercial development of Georgia.

The company is a pioneer in the packing and commercial live stock industries of the State, having been established twelve years ago, and its growth from a small beginning, says the Constitution "has been a constant attestation of the possibilities of Georgia as a producer of the best grades of meats and meat products."

The growth of the company is a convincing object lesson of what can be done in Georgia and other Southern states by diversified farming—raising foodstuffs and feed crops to be converted into live stock. The benefits which an industry of this character is able to extend to other lines of industry, is shown by the following quotation from a pamphlet which the company recently issued:

"The White Provision Co. buys its live stock, cattle, sheep, and hogs locally, and throughout the South, and manufactures a complete line of high-class packing house products.

"The vast quantity of raw materials, mostly cattle and hogs, purchased are grown mainly on the farms of this state. Thereby we are sustaining the fundamentals of our home independence, and building a worthy Georgia enterprise, investing our money and energies in the agricultural development of this state, and in doing so, we are contributing to the industrial and educational development of our city and state. We furnish the farmers a ready cash market for their live stock; our purchases from Georgia farmers alone this year will exceed a million dollars.

"We are spending large amounts in Atlanta and Georgia for supplies entering into the operation of our plant. We pay out more than \$25,000 annually for boxes made in Atlanta; \$10,000 is spent for cotton cloth used in wrapping hams and bacon. We use many carloads of Georgia hickory wood in smoking hams and bacon. We pay out more than \$25,000 annually for paper containers made in Atlanta, used in our sausage packing department. Another \$25,000 is paid for lard pails and cans, made in Atlanta.

"These expenditures for supplies and many others, too numerous to mention, amounting to many additional thousands of dollars, help to keep our home labor employed and our home plants going."

## The Coal Fields of Kentucky.

The publication of Technical Paper 308, "Analyses of Kentucky coals," containing the results of chemical analyses and heating-value determinations of several hundred Kentucky


coals, is announced by the Bureau of Mines. This is the second of a series of technical papers issued by the Bureau dealing with the characteristics of the coals of the various states. Technical Paper 269, relating to Iowa coals, was published some months ago.

The first record of coal mining in the State of Kentucky is for 1828, when 328 tons were mined. From that year the development of the fields gradually increased until 1907, when the production reached 10,750,000 net tons. The rapid development since 1907 is due to the extension of railroads farther into the coal fields and the introduction of improved mining machinery. In 1918 the output reached 31,530,000 net tons, ranking the state fifth in production of coal in the United States.

The coal regions of Kentucky cover an approximate area of 15,000 square miles and are divided in two separate fields—an eastern field of 10,400 square miles and a western field of 4600 square miles. The eastern field comprises 37 counties that have for their eastern boundary the State line. The coals of this field are a part of the Appalachian Basin and are generally high in volatile matter, low in sulphur and ash, and relatively high in heating value. The Harlan, Hazard, Hignite, and Millers Creek coals are known as block and splint. In the western field, the most mining is done in Christian, Daviess, Henderson, McLean, Muhlenberg, Ohio, Hopkins, Union, and Webster Counties. The coals of this field are a part of the eastern interior basin, and are closely related to the coals of Illinois and Indiana. As compared to the coals of the eastern field, they are higher in moisture, ash, and sulphur, and lower in heating value.

Cannel coals occur in thin beds throughout the eastern field. Workable beds ranging in thickness up to about 48 inches are found in Bell, Breathitt, Carter, Floyd, Magoffin, Leslie, and Johnson Counties. They are used as an enricher in the manufacture of illuminating gas and for domestic purposes.

The same sharp division between east and west which marks the geology of the coals of Kentucky extends to the commercial affiliations of the producing fields and to the uses to which the coals are put. Broadly speaking, the coals of western Kentucky are chiefly in demand for steam raising, whereas the most important demands for eastern Kentucky coals come from makers of by-product coke and illuminating gas. Railroad fuel is the chief avenue of consumption for the western Kentucky coals, but is only a minor avenue for those of eastern Kentucky. In both the eastern and the western fields the sales to retail coal dealers for domestic use form an unusually large proportion of the total.



### The Saving Pays for It

The amount of oil saved by the installation of a Wayne Oil Storage Tank will pay for the tank in the first year. After that, the saving will hit the balance sheet as an item of lowered costs. Bulletin 35-MF gives the whole story. Write for it.

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An International Organization  
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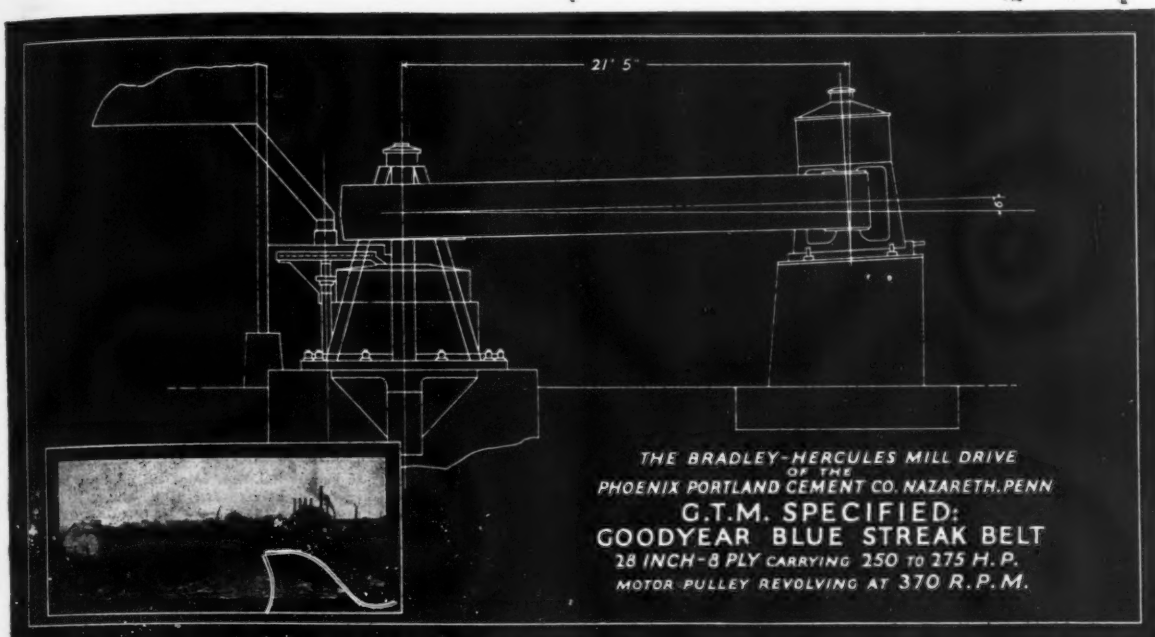
### Contractors and Manufacturers

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THE BRADLEY-HERCULES MILL DRIVE  
OF THE  
PHOENIX PORTLAND CEMENT CO. NAZARETH, PENN.  
G.T.M. SPECIFIED:  
GOODYEAR BLUE STREAK BELT  
28 INCH-8 PLY CARRYING 250 TO 275 H. P.  
MOTOR PULLEY REVOLVING AT 370 R. P. M.

Blueprint sketch of Goodyear-belted Bradley-Hercules Mill Drive of the Phoenix Portland Cement Company, Nazareth, Pennsylvania, and insert photograph of the plant

Copyright 1922, by The Goodyear Tire & Rubber Co., Inc.

## The Bradley-Hercules Drive—and the G.T.M.

*It was the first plant analysis* made by the G.T.M.—Goodyear Technical Man—that fully convinced Mr. E. P. Haubert, Secretary and Purchasing Agent of the Phoenix Portland Cement Company, of Nazareth, Pennsylvania, that the economical way to buy belting is to buy the particular belt for the particular drive.

*"To be candid,"* he writes, "I was somewhat skeptical at the outset. However, we gave the G.T.M. full sway, co-operating with him by furnishing all data on operating problems peculiar to our plant, and the survey he made gave us exactly the records we wanted. We consider the Goodyear Company furnished us an extremely valuable service."

*Carrying out the G.T.M.'s recommendation,* the Company installed a 23-inch, 8-ply Goodyear Blue Streak Belt on a Bradley-Hercules Mill Drive, August 25, 1921. That is a vertical drive, transmitting power for crushing rock of size from  $1\frac{1}{2}$  inches down into finer form for the pulverizing tube mill. It exerts a severe strain on any belt, for the belt must be kept under high tension, very tight, with the motor pulley revolving at 370 R. P. M.

*"The best service we ever received* on this particular drive from any belt whatsoever," is Mr. Haubert's summary of this Goodyear Blue Streak Belt's performance. "It stood by the

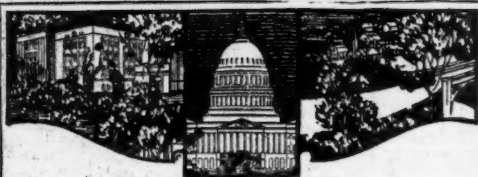
job for nine months, during which we put through 192,172 tons of raw material, enough to make 604,000 barrels of cement. The best previous belt record on that drive was 70,637 barrels less.

*"The Goodyear Belt* was by no means worn out when we took it off. We took it off only because we felt that it might possibly break at some time when the time lost by reason of changing belts would seriously affect our production. If we had had another Goodyear Belt as a spare, we would have left it on, and I feel sure would have got quite a bit of additional service from it.

*"We have a number of Goodyear Belts,* both conveyor and transmission, G.T.M.-specified, in addition to this Goodyear Blue Streak Belt, and they are giving correspondingly good service."

*What the G.T.M. can do* for one plant, in one industry, he may be able to do for your plant. He has an expert knowledge of Mechanical Rubber Goods. He has a practical knowledge of many industrial problems. You can rely on any Goodyear Mechanical Rubber Goods he recommends—belts, hose, valves and packing—to do their work more efficiently, more economically, over a longer time. For further information about Goodyear Mechanical Rubber Goods and the Goodyear Analysis Plan, write to Akron, Ohio, or Los Angeles, California.

GOODYEAR



# MUNICIPAL BONDS

*as a factor in*  
**America's Progress**

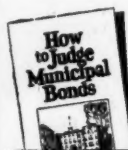
**A**merican communities are more pleasant and healthful places in which to live than ever before. Improved sanitation, pure water, good schools, smooth, hard roads, inspiring public buildings have made them so.

These improvements, in turn, have been made possible largely through the issuance of municipal bonds, payable at a future date, thus spreading the burden of payment over a period of years, and permitting the community to have the use of the improvement while tax funds steadily accumulate to meet principal and interest when due.

Just as American communities have progressed through the sale of their bonds, so, too, a host of investors have registered real progress through their purchase. Municipal bonds are second in security only to government bonds; their income is exempt from Federal Income Taxes; and their yield, while lower than that of some securities, may really exceed the latter when their tax exemption and safety are considered.

During an extended experience, Halsey, Stuart & Co. has contributed to the progress of hundreds of American municipalities and thousands of investors through outright purchase of entire issues of municipal bonds, and redistribution among investors. Your inquiry will bring further details regarding whichever feature of this two-fold service interests you.

## "How to Judge Municipal Bonds"



summarizes in pamphlet form, the important points to be considered in the selection of Municipal Bonds. The information contained will be of value even to those of considerable experience with bonds of this type. Investors who feel that they do not know Municipal Bonds should surely read it.

Write for pamphlet MR-12

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## Will More Leisure Make the Working Man Better Off?

New York, N. Y., October 31—The engineers who, after two years of effort, have just completed a national investigation of the problem of the twelve-hour day are convinced that a shorter day will benefit laborers. Further, they say, both employer and employee will benefit by the shorter day, which since the war has spread over Europe and is being introduced in Japan, Canada, Africa and India.

Dr. H. E. Howe of the National Research Council, a leader in industrial and engineering chemistry, states what, in his opinion, would be the influence upon managers and men if the report on the twelve-hour shift in American industry, which has just been adopted by the American Engineering Council of the Federated American Engineering Societies, were put into general practice throughout this country.

"The report which has been made on the twelve-hour shift in American industry under the auspices of the Federated American Engineering Societies will prove an unusual and valuable document for several reasons," said Dr. Howe, who is chairman of the Committee on Work-Periods in Continuous Industry of the engineering societies. "It will be news to many people that there are still so many industries in which the long shift is in vogue, and the report contains suggestions which ought to lead to earnest experiments in the near future.

"For example, it is a novel suggestion that in changing from two to three shifts in continuous industries the men be paid the same rate per hour, thereby establishing a basic wage equivalent to two-thirds their income on the longer day, and yet supplement this with a bonus graded upon performance, which would make it possible for the more proficient to make their income equal that before the change."

Discussing the value of the shorter working day of eight hours, Dr. Howe said:

"The references made to the value of leisure ought to start many managers thinking along lines new to them, and give rise to considerations which may break down some of the prejudices against a change in the length of shift. It involves something of the spirit of service, for in many cases steps will have to be taken to teach labor the real value of leisure and the best ways of employing it.

"That labor can earn something in leisure hours by doing for itself many odd tasks which are ordinarily paid for has not occurred to many, while the thought that the net gain which results from leisure properly expended is very well worth while to the employer will also be new."

More than forty continuous industries were investigated by the committee, said Dr. Howe, who stressed the necessity of close co-operation between labor and management.

"Another observation which is noteworthy," he continued, "is that referring to the part which labor-saving devices and equipment in good condition play in making possible the increased intensity of operation which under proper management may be expected to give an increased production in three shifts over that in two shifts which repays extra cost. One cannot read the report carefully without realizing that any of these forward steps depend primarily upon capability and skill in management, no less than upon hearty co-operation on the part of both labor and management.

"It may take a long while to bring many industries to the shorter shifts, and indeed there may always be some kinds of work on the twelve-hour basis. The committee responsible for the report very much hopes that the work presented may be a contributing factor in improving labor and social conditions."

One of the most gratifying results to the engineer, Dr. Howe declared, was the practically unanimous attitude of the press in commending the spirit of the inquiry, which had

been carried out by the engineering profession solely with the aim of public service.

L. P. Alford of New York, a member of the committee and editor of "Management Engineering," said it was hoped to make the two-shift report generally available in complete form in the near future. Mr. Alford is senior vice-president of the American Society of Mechanical Engineers.

Horace B. Drury, formerly of the faculty of Ohio State University, who with Bradley Stoughton, chairman of the Iron and Steel Committee of the American Institute of Mining and Metallurgical Engineers, directed the field work of the investigation, asserted that the change from the twelve to the eight-hour day, so far as it has been tried, "has secured results sufficient to compensate in whole and part for the extra cost involved."

The eight-hour day, according to Mr. Drury, has eliminated the "floating gang," which is maintained to give twelve-hour men a day off a week, and has given industry greater prestige with the public, invaluable, he said, in time of strife.

Increased efficiency, manifested in increased production per man, per hour and per machine per day, had also resulted, he stated. This increase in efficiency, he ascribed to "better physical and mental condition of the men, better class of men attracted, better conduct of operation, more uniform operation, better quality of product, less fuel used, less waste, less repairs to equipment and longer life of apparatus."

The eight-hour day, he declared, produces better morale resulting in less absence and tardiness, less shirking and better discipline. A painstaking examination of conditions all over the country, Mr. Drury concluded, showed that the shorter day produced a better spirit among the workers. Improved discipline he laid to "the greater pressure which foremen can and will start because they do not have to hold back out of sympathy for tired men."

Mr. Stoughton, a former associate at Columbia University of the late Henry Marion Howe, world famous metallurgist, said that the eight-hour day had conclusively proved its worth in the steel and iron industry, in which he directed a special investigation for the engineering societies.

## One Who Believes in Obedience to God's Laws.

T. H. TRAYLOR, Lagrange, Ga.

Please allow a countryman who cannot claim that he is a farmer because he never makes a farm pay, say that he is a little bit set back by the fact that he does not see a straight or full reliance on Divine law in Church or civil papers as a plain statement or ground for faith by saint or sinner. We profess to be a Christian people but I do not find any argument on the Saviour's words, "It is written."

Deuteronomy 15th chapter 7-11, gives a perfect answer to many questions being asked and subjects discussed but I never see it quoted. Jesus said "Heaven and earth shall pass away before one jot or tittle of the law shall fail." If any believe they rarely print this. Can we be Christian in fact till we believe in the Saviour as authority whenever He speaks? I do not think so, but few of us think His words are to be our law. I cannot understand this. We seem either not to know the law or are afraid to stand on it. In His temptation He answers the Devil from the law fully, why should not we? Luke 4: 3-12.

Luke 9: 26 says: "Whosoever shall be ashamed of me and of my words, of him shall the Son of Man be ashamed when He shall come in his own glory." It seems we are only playing at Christianity until we can show our faith by our works. "If ye love me keep my commandments" is the test of our loyalty. I beg to remain a believer in God's wisdom and man's weakness, but think we should give God's laws our implicit obedience.

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# Changes in Business Policy

Many and far-reaching changes are today taking place in the policies upon which business is conducted. Most of the policies that have been in force for the past twenty-five years were based on the cardinal fact of a steadily rising market. Fluctuations were accepted as incidental and temporary; but the assurance of a general average tendency upward was the basis of every attitude that became formulated into a policy.

Recent changes in business policy — changes coming about with the past year or more—are based on the final acceptance of the fact that we have entered a period of a non-rising—in all likelihood a falling—market. So long as it was possible to assume that the new price levels represented but a temporary depression the old policies were bravely and tenaciously adhered to; but when it became clear that in all human probability the market would continue downward, then an adjustment of basic policies became imperative.

Chief among the policies that have neces-

sarily been changed are those that relate to the creation of Demand.

Under the old policies a certain Demand was inevitable, and came to be accepted as a matter of course. It was the cardinal policy of almost every producer and distributor to attempt to capture a generous share of the existing Demand. Not a great deal of thought was given to creating Demand itself.

But now that the great Demand has relaxed until there is not enough to give everybody a liberal share, it has brought business to the imperative consideration of two things: One is how to get a full share of the Demand by taking it away from others by force of competition. The other is how to create more Demand, so there will be enough for all.

The great and imperative necessity of stimulating and creating Demand for the products of industry has at last given Advertising a position of importance in business policies far in excess of any that it has ever known.

[Published by the MANUFACTURERS RECORD in co-operation  
with The American Association of Advertising Agencies]

## PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

Bids close December 14, 1922.

**PROPOSALS FOR NINE STEEL BARGES.**—Office Mississippi River Commission, Third District, P. O. Box 404, Vicksburg, Miss. Sealed proposals will be received here until 11 a. m., December 14, 1922, and then opened, for furnishing nine steel barges. Further information on application.

Bids close December 2, 1922.

**PROPOSALS FOR MACHINERY FOR HYDRAULIC GRADER.**—Office, Mississippi River Commission, 1st and 2nd Districts, Customhouse, Memphis, Tenn.—Sealed proposals will be received here until 11 a. m., December 2, 1922, and then opened, for furnishing turbines, pumps, feed-water heater, boiler-feed pumps, and electric-light plant. Further information on application.

Bids close December 2, 1922.

**PROPOSALS FOR STEEL BARGES.**—Office Mississippi River Commission, 1st and 2nd Districts, Customhouse, Memphis, Tenn.—Sealed proposals will be received here until 11 a. m., December 2, 1922, and then opened, for furnishing six steel barges. Further information on application.

Bids close December 2, 1922.

**PROPOSALS FOR BOILERS.**—Office, Mississippi River Commission, 1st and 2nd Districts, Memphis, Tenn.—Sealed proposals will be received here until 11 a. m., December 2, 1922, and then opened, for furnishing boilers for hydraulic grader No. H. G. 2-1-2-23. Further information on application.

Bids close December 1, 1922.

**Proposal for Steel Barge.**—U. S. Engineer office, Montgomery, Ala.—Sealed proposals will be received here until 11 A. M., December 1, 1922, and then opened, for one 80-ft.x26-ft.x5-ft. steel barge. Further information on application.

RATE: 35 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 4 P. M., Monday.

DAY LETTER: When too late to send copy by mail to reach us by 4 P. M. Monday, forward by day letter.

**THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:**

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest. The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements. The same rate applies—35 cents per line per insertion.

Bids close December 7, 1922.

**U. S. ENGINEER OFFICE, HUNTINGTON, W. VA.** November 7, 1922. Sealed proposals will be received here until 11 a. m. (Eastern time), December 7, 1922, and then opened, for building five lock-keeper's dwellings at Dam No. 30, near Greenup, Ky. Further information on application.

Bids close December 15, 1922.

**U. S. ENGINEER OFFICE, HUNTINGTON, W. VA.** November 15, 1922.—Sealed proposals will be received here until 11 a. m. (Eastern Time), December 15, 1922, and then opened, for furnishing and delivering steel hull maneuver boat, etc., for Dam No. 30, Ohio River. Further information on application.

Bids close December 4, 1922.

### \$37,500 6% Water Works and Street Bonds

The City Council of Zephyrhills, Fla., will receive sealed bids until 7 o'clock, P. M., December 4, 1922, for the purchase of \$37,500 water works and street bonds of said city, in the denomination of \$500, each bond to be dated January 1, 1923, to bear interest at 6% payable semi-annually on January 1 and July 1 of each year, and the principal of said bonds to be paid as follows: \$5000 on January 1, 1933; \$15,000 on January 1, 1943, and \$17,500 on January 1, 1953; both principal and interest payable at American State Bank, Zephyrhills, Fla., or at National Park Bank, New York. Each bid must be accompanied by a certified check for \$500 as evidence of good faith, payable to E. E. Quiggle, President City Council. The City Council reserves the right to reject any or all bids.

K. A. HUSE, City Clerk,  
Zephyrhills, Fla.

Bids close December 4, 1922.

### Road Improvement

Dade City, Fla.  
Pasco County, Florida, will let the improvement on the "Coast Road," comprising 32 miles, on December 4, 1922, at 2 o'clock P. M. Five hundred thousand dollars available for this improvement.

A. J. BURNSIDE, J. W. TURNER,  
Clerk, Engineer,  
Dade City, Fla. Lakeland, Fla.

Bids close November 27, 1922.

**U. S. Engineer Office, Jacksonville, Fla.**—Sealed proposals will be received here until 12 M., November 27, 1922, and then opened, for dredging in Key West Harbor, Fla. Further information on application.



Bids close December 1, 1922.

**\$75,000 Refunding Bonds****PUBLIC NOTICE**

Brewton, Ala.

STATE OF ALABAMA.  
ESCAMBIA COUNTY.

The Court of County Commissioners of Escambia County, Alabama, on the 1st day of December, 1922, at High Noon, will receive and open bids and invite bids for the sale of \$75,000.00 of County Bonds of said County—bearing interest at a rate not to exceed five (5%) per cent per annum, payable semi-annually and which bonds are to run and mature and become payable twenty (20) years from their date of issue, and which bond shall be issued for the purpose of refunding or paying debts created for constructing the public highways, roads and bridges of said County. At the Court House at Brewton, Ala., all bids should be addressed to: "Escambia County, and its Court of County Commissioners." All bids should be made and filed in writing and duly sealed securely and addressed to M. R. McClellan, Judge of Probate, Brewton, Ala., and should show on the outside that it is a bid on the Bond Issue; the Court and County reserves the right to reject any and all bids; no bid will be considered unless in writing and filed before the time above specified; no bid will be considered unless the same is accompanied by a proper check made payable to Escambia County, Alabama, for the sum of Five Hundred (\$500.00) Dollars, and duly certified by some good bank; the condition of the check shall be written across its face as follows: "This check is the property of Escambia County, Alabama, if we fail to comply with any contract we make with said County in and about the purchase of the \$75,000.00 of County Bonds for which we have filed a written bid. And the money named in the Face of the check is also the property of the County as liquidated damages. If we fail to comply with our said contract for which this check is given as security."

This notice is published under the Act approved October 8, 1920; said bonds will be dated January 1, 1923, and this notice is published once a week for two consecutive weeks in a newspaper published in Escambia County, Alabama, and other newspapers in the State; and the Probate Judge is authorized to publish and pay for the same.

M. R. McCLELLAN,  
Probate Judge of Escambia  
County, Alabama.

Bids close December 4, 1922.

**Road Improvements**

Palatka, Fla.

The County Commissioners of Putnam County, Florida, will receive bids until 2 P. M., December 4, 1922, for grading and surfacing road 22 miles long with clay and sand-clay. Approximately 54,000 cu. yds. of grading, 12,520 cu. yds. of sand-clay surfacing, and 10,160 cu. yds. of clay surfacing.

Bidders may bid on whole work or on any one of three divisions.

Copy of plans and specifications \$2.50.  
R. J. HANCOCK, Clerk.

Bids close December 4, 1922.

**Road Grading, Drainage and Surfacing**

Tavares, Fla.

Sealed proposals will be received by the Board of County Commissioners, Lake County, Florida, at Tavares, in the County Court House up to 12 o'clock, M., on the 4th day of December, 1922, and at that time publicly opened, for the Grading, Drainage and Surfacing with Sand Clay and Shell of a section of Road No. H in East Lake County Special Road and Bridge District, of Lake County, Florida, between Altoona and Crows Bluff, being approximately 18.9 miles in length, as shown on Plat No. 1-H.

Plans and specifications may be obtained on application to the County Engineer, at Tavares, Florida, for the sum of \$10.00, or may be examined at the office of County Engineer, Tavares, Florida, or at the office of the County Clerk, Tavares, Florida.

The right is reserved to reject any or all proposals.

T. C. SMYTH, County Clerk,  
H. R. FERRAN, Chairman,  
Board County Commissioners.  
GEO. E. HELLER,  
County Engineer.

Bids close November 27, 1922.

**Road Improvements**

Gainesville, Fla.

Sealed proposals addressed to the Board of Bond Trustees, Special Road and Bridge District No. 1, Alachua County, Florida, will be received by the Board at its office in the Alachua County Court House in Gainesville, Fla., until 11 o'clock A. M., Monday, November 27, 1922, for Surface Treatment on the following roads:

Gainesville-Archer Road;  
Approximately 80,000 sq. yds. Scarifying and Reshaping Old Rock Base.  
Approximately 80,000 sq. yds. Surface Treatment.

Gainesville-Fairbanks-Waldo Road;  
Approximately 150,000 sq. yds. Surface Treatment.

Specifications and proposal forms may be secured at the office of the District Engineer, Room 7, Laird Building, Gainesville, Fla., at five (\$5.00) dollars per set.

Each bid must be accompanied with a certified check on an Alachua County bank or proposal bond, executed by a reputable bonding company authorized to do business in the State of Florida, in the amount of 5% of the contract price made payable to the Chairman of the Board of Bond Trustees.

W. R. THOMAS, Chairman,  
ALVA B. CROSS,  
District Engineer.

Bids close December 1, 1922.

**Water Works and Sewer Extension**

Dillon, S. C.

Bids will be received at 2:00 P. M., December 1, 1922, by the Town Council and Commission of Public Works of Dillon, S. C., for the following water works and sewer work:

1—250,000 gallon reinforced concrete reservoir.

Extension of sewer lines.

Extension of water lines.

Installation of pumping machinery which will be furnished by the City.

The total cost of the work to be about \$50,000.00.

A certified check for 5% must accompany each bid.

The City reserves the right to reject any or all bids.

Plans and specifications are on file in the office of the City Clerk and Treasurer. Copies will be furnished by the Engineers upon deposit of \$10.00, which deposit will be refunded if plans and specifications are returned within ten days from date of receiving bids.

TOWN OF DILLON, S. C.  
G. G. McLaurin, Mayor,  
L. C. BRADY, Chairman,  
Comm. Public Works.  
RYAN ENGINEERING CO.,  
Engineers,  
Arcade Building,  
Columbia, S. C.

Bids close December 19, 1922.

**Electric Lights, Water Works and Filtration Plant**

Houma, La.

SEALED PROPOSALS will be received by the Mayor and Board of Aldermen of the City of Houma, La., until 12 o'clock noon on Tuesday, December 19, 1922, for the construction of a water works system with mechanical filtration plant and electric power station.

WORK EMBRACES: Pumping plant of 1,000,000 gallons daily capacity, consisting of three units embracing 1000 G. P. M. Fire Pump, all motor driven.

Oil engine generator sets.  
Mechanical Filtration Plant, 1,000,000 gallons daily capacity.

Earthen storage reservoir, 10,000,000 gallons capacity.

Cast iron mains, approximately 800 tons.

One mile of transmission lines.

Brick power station and reinforced concrete filter structures.

PLANS AND SPECIFICATIONS on file with D. Angers, City Clerk, Houma, La., and secured from him or Massena L. Culley, designing engineer, Jackson, Miss., on deposit of \$5.00 for specifications and \$20.00 for plans, returnable if same are returned before date of letting.

BIDS MUST BE ACCOMPANIED by a certified check or bidder's bond in amount at least five per cent of the amount of bid.

ALL USUAL RIGHTS RESERVED, including right to reject any or all bids.

H. M. BOURG, Mayor.

D. ANGERS, City Clerk.  
(Massena L. Culley, designing engineer, Jackson, Miss.; T. Baker Smith, resident engineer, Houma, La.; George W. Fuller, consulting engineer, Filtration, New York City.)

Bids close November 27, 1922.

**Water Works and Sewerage Improvements**

Kings Mountain, N. C.

Sealed proposals will be received by the Board of Commissioners of the Town of Kings Mountain, North Carolina, until 12 o'clock M., Monday, November 27, 1922, for making water works and sewerage improvements.

The work includes:  
Construction of a 500,000-gallon reinforced concrete Reservoir.

Small Pumping Station of reinforced concrete and brickwork.

Reinforced concrete Sewage Sedimentation Tank.

Furnishing and laying two (2) miles of water mains six (6) to fourteen (14) inches in diameter, with accessories.

Building two (2) miles of sewers, and

Furnishing eight (8) inch and ten (10) inch sewer pipe.

The principal quantities involved are:

900 cubic yards of earth excavation for structures.

170 cubic yards 1—1½—3 concrete.

255 cubic yards 1—2—4 concrete.

47,000 pounds reinforcing steel.

2,100 lineal feet fourteen (14) inch water mains.

6,470 lineal feet twelve (12) inch water mains.

460 lineal feet ten (10) inch water mains.

2,700 lineal feet six (6) inch water mains.

6,200 lineal feet eight (8) inch sewer mains.

1,650 lineal feet ten (10) inch sewer mains.

40 Valves and Hydrants.

Plans will be on file and may be seen at the office of the Town Clerk, Kings Mountain, N. C., and at the office of the Ludlow Engineers, Winston-Salem, N. C., after November 10, 1922.

For the convenience of prospective bidders, the Engineers will furnish copies of the plans upon application accompanied by a check for \$10.00 to cover the cost, or separate prints will be furnished at \$1.00 each.

Each bid must be accompanied by a certified check in the sum of \$2500, or 5% of the amount of partial bids.

Proposals will be opened publicly with the usual rights reserved.

W. H. McGINNIS, Mayor,  
GEO. E. LOVELL,  
Secretary and Treasurer.

THE LUDLOW ENGINEERS,  
Winston-Salem, N. C.  
J. L. Ludlow, Consulting Engineer.

Bids close December 5, 1922.

**Excavator**

Fort Pierce, Fla.

The Board of County Commissioners of St. Lucie County, Florida, invite sealed proposals for the sale of the following equipment to St. Lucie County, Florida, on December 5, 1922.

One Excavator.

Excavator to be of gasoline or distillate fuel type, equipped with caterpillar track and of three-quarter yard or one yard capacity.

Bids must state price of excavator alone, and price equipped with clam shell bucket, and price equipped with drag line bucket.

General specifications of machine must accompany proposal.

Proposal must state terms and method of payment.

Proposals will be considered on both new and used machines, but proposals on used machines must contain full information as to type, age, condition, etc.

All proposals will be on the basis of F. O. B. Cars, Fort Pierce, Fla.

All proposals will be sealed in separate envelopes marked "Proposal for County Machinery," with bidder's name indicated thereon, and mailed or delivered to F. C. Eldred, Clerk, Board of County Commissioners, Fort Pierce, Fla.

Bids will be opened at 2:00 P. M., December 5, 1922.

The Board of County Commissioners reserve the right to reject any or all bids, and to act in the matter to the best interests of St. Lucie County, Florida.

(Signed) C. F. RAULERSON,  
Chairman,  
Board of County Commissioners.

Attest:  
P. E. ELDRD, Clerk,  
Board of County Commissioners.

Bids close November 29, 1922.

### Water Works Improvements

Bay St. Louis, Miss.  
The Mayor and Board of Aldermen, of the City of Bay St. Louis, Miss., will receive bids at the City Hall, until Two O'clock P. M., Wednesday, November 29, 1922, for material and labor necessary in the building of the Water Works Improvements.

Approximately the following equipment and material will be required:

- Two (2) 750 G. P. M. Motor-driven centrifugal Fire Pumps.
- One (1) 75,000 Gallon Steel Tank and Tower.
- One (1) 125,000 Gallon Concrete Reservoir.
- 3000 Feet of 8" Cast Iron Pipe.
- 6000 Feet of 6" Cast Iron Pipe.
- 26,000 Feet of 4" Cast Iron Pipe.
- Sundry Hydrants, Valves, Fittings, etc.
- Labor laying pipe and general construction.

Plans and specifications will be on file at the office of the City Clerk, Bay St. Louis, Miss., and at the office of the Engineers. All bids must be submitted on blanks for that purpose furnished with the specifications. Plans, specifications and bid sheet can be obtained from the Engineers, Swanson-McGraw, Inc., 705 United Fruit Building, New Orleans, La., by depositing Ten (\$10.00) Dollars, which deposit will be returned to bona fide bidders, or if the specifications are returned to the Engineers prior to the date of the letting.

Each bid must be accompanied by a certified check (bidder's bond not acceptable) in amount of five (5%) per cent of the amount bid, but in no event shall check be in less amount than Fifty (\$50.00) Dollars as evidence of good faith.

The right is reserved to reject any or all bids, waive any or all formalities, or accept any bid or bids which in the opinion of the Board appear to be to the best interest of the City.

R. W. WEBB, Mayor.  
SYLVAN J. LADNER, Clerk.  
SWANSON-McGRAW, INC.,  
Consulting Engineers,  
705 United Fruit Building,  
New Orleans, La.

Bids close December 4, 1922.

### Water, Sewerage and Electric Work

Ridgeway, S. C.  
Bids will be received at 2.00 P. M., December 4, 1922, by the Commission of Public Works of Ridgeway, S. C., in the office of the Clerk and Treasurer for the following water, sewer and electrical work:  
Electrical distribution system.

13,200 volt transmission line with substations, from Ridgeway to Winnsboro, S. C.

Water distribution system consisting of 8, 6 and 1½-inch pipe, valves, hydrants, etc.

Sanitary sewer system.  
Two 8-inch wells.  
One 60,000 gallon steel tank mounted on 100-foot tower, with alternate bid on one 75,000 gallon tank on 100-foot tower. The total cost of the work to be about \$50,000.00 with the privilege of the Town to increase it to \$60,000.00.

A certified check for 5% of the bid to accompany each bid.  
The Town reserves the right to reject any or all bids.

Plans and specifications are on file in the office of the Clerk and Treasurer. Copies will be furnished by the Engineers upon deposit of \$10.00, which deposit will be refunded if plans and specifications are returned within ten days after date of receiving bids.

RYAN ENGINEERING CO.,  
Engineers,  
Arcade Building,  
Columbia, S. C.

COMMISSION OF PUBLIC WORKS,  
W. H. RUFF, Chairman,  
R. W. ADAMS,  
J. S. EDMUNDS.

Bids close December 11, 1922.

### Sewers

Sanford, Fla.  
Sealed proposals will be received by the City Commission of Sanford, Fla., at their office in the City Hall, on or before 8 P. M., December 11, 1922, for the construction of the following sewers:

- Approximately 22,000 ft. of 6 to 24-in. sewer.
- Approximately 735 ft. of 39-in. circular sewer.
- Approximately 900 ft. of 36-in. circular sewer.

Approximately 750 branches of 8 to 21-in. diameter pipe.  
Sewer pipe and segment block to be furnished by City, F. O. B. cars, Sanford, Fla.  
Proposals to be presented, in sealed envelope, endorsed on outside, "Bid for Sewer Construction," Sanford, Fla., with the name of bidder or bidders.

Each proposal must be accompanied by a certified check made payable at sight to the City of Sanford, Fla., for \$1000.00.

Copies of plans and specifications may be seen at the office of the City Manager, or at the office of Fred T. Williams, Engineer. Plans and specifications can be secured from Fred T. Williams on deposit of \$10.00, which will be returned if bid is made.

Proposals will be received on a part or the whole of the work.

The City Commission reserves the right to reject any or all bids, or to accept any bid they deem to be for the best interest of the City.

C. J. RYAN, City Manager.

Bids close December 7, 1922.

### Natural Gas Distribution System

Alexandria, La.

Sealed proposals will be received by the Commission Council of the City of Alexandria, La., up to 10:00 A. M. of Thursday, December 7, 1922, for the furnishing of all labor, tools, etc., and the construction complete, and ready for operation of a natural gas distribution system for the city of Alexandria, La., as follows:

LAYING THE FOLLOWING CAST IRON PIPE:

- 77,826 lineal feet 4-inch.
- 44,000 lineal feet 6-inch.
- 13,370 lineal feet 8-inch.
- 5,600 lineal feet 10-inch.

Including the placing of all valves, specials, etc.

WELDING AND LAYING THE FOLLOWING STEEL PIPE:

- 20,000 lineal feet 2-inch.
- 6,000 lineal feet 4-inch.
- 8,200 lineal feet 6-inch.
- 8,100 lineal feet 8-inch.
- 5,700 lineal feet 10-inch.
- 4,600 lineal feet 12-inch.

Including the placing of all valves, specials, etc.

Each bid shall be accompanied by a certified check payable to the City of Alexandria, La., in the sum of five (5%) per cent of the amount bid.

Bond in the amount of fifty (50%) per cent of the contract price will be required for the faithful performance of the work.  
The city reserves the right to reject any and all bids.

For further information apply to W. H. Sylvester, City Engineer, or  
V. M. AKE, Secretary-Treasurer.

Bids close December 7, 1922.

### Material for Natural Gas Distribution System.

Alexandria, La.

Sealed proposals will be received by the Commission Council of the City of Alexandria, La., up to 10:00 A. M. of Thursday, December 7, 1922, for furnishing the following approximate quantities of material:

- 782 tons 4-inch bell and spigot cast iron gas pipe.
- 519 tons 6-inch bell and spigot cast iron gas pipe.
- 225 tons 8-inch bell and spigot cast iron gas pipe.
- 132 tons 10-inch bell and spigot cast iron gas pipe.
- 21 tons Specials—12½ tons drip pots.
- 300 Buffalo type roadway boxes.
- 50 Buffalo type gas drip boxes.
- 55,000 lbs. lead wool, alternate, 55,000 lbs. pig lead.
- 3,000 lbs. untarred jute.
- The following Plain Ended Standard Steel Pipe:
- 6,000 lin. ft. 4-inch.
- 8,200 lin. ft. 6-inch.
- 8,100 lin. ft. 8-inch, weighing 28.55 lbs.
- 5,700 lin. ft. 10-inch, weighing 40.48 lbs.
- 4,600 lin. ft. 12-inch, weighing 49.56 lbs.

Each bid shall be accompanied by a certified check payable to the City of Alexandria, La., in the sum of five (5%) per cent of the amount bid.

Bond in the amount of fifty (50%) per cent of the contract price will be required for the faithful delivery of the material within the time specified in the contract.

The city reserves the right to reject any and all bids.

For further information apply to W. H. Sylvester, City Engineer, or  
V. M. AKE, Secretary-Treasurer.

Bids close December 4, 1922.

### Water and Power Plant Improvements

Lafayette, La.

Sealed proposals will be received by the City of Lafayette, Louisiana, at the Trustee of Finances' Office until 4 P. M. Dec. 4, 1922, for the furnishing of the following equipment, machinery, labor and material for improvements to the Water and Power Plant of the City of Lafayette, Louisiana, including foundations, piping and the following list of machinery furnished and delivered F. O. B. Cars, Lafayette, La.

The equipment to be as follows:

- 2 300 H. P. Water Tube Boilers, 225 pounds with Super-heaters, oil burners, soot blowers.
- 1 500 K. W. Steam Turbin Generator Unit, 225 pounds steam pressure, 150 Degrees Fahrenheit Superheat, 27½" vacuum.
- 1 Uniflow Engine, 225 pounds, 150 degrees Fahrenheit superheat, 26" vacuum.
- For direct connection to 312 K. V. A. 85% P. F. Generator, 200 R. P. M.
- 1 312 K. V. A. 200 R. P. M. Engine type generator, 3 phase, 60 cycle 2200 volts with belted exciter.
- 1 Fourteen Panel Switchboard.
- 1 8400 Pound Surface Condenser, 27½" vacuum, 85 degree water.
- 1 4200 Pound Surface Condenser, 26" vacuum, 85 degree water.
- 1 System of Spray Heads.
- 2 1500 G. P. M. Deep Well Pumps and Slip Ring Motor Pumps 200 ft. head, 75 feet below ground surface.
- 2 1500 G. P. M. Booster Pumps and Motors, suction 120 ft. head pressure, discharge 240 ft. head.
- 4 10,000 gallon oil storage tanks, or 1 40,000 Concrete Tank.
- Steam exhaust, hydraulic, electrical and oil connections.

Bids will also be received on the following alternate plant equipment and construction:

- 2 Oil Engine Units, full Diesel totaling approximately 500 K. W. with interchangeable parts, for direct connection to generators.
- 2 Generators, 3 phase, 60 cycle, 2200 volts, total 500 K. W. suitable for direct connection to above oil engines.
- 1 Fourteen Panel Switchboard.
- 2 1500 G. P. M. Deep Well Pumps and Slip Ring Motor pumps 200 ft. head 75 feet below ground surface.
- 2 1500 G. P. M. Booster Pumps and Motors suction 120 ft. head pressure, discharge 240 ft. head.
- 2 10,000 Gallon Oil Storage Tanks.
- Oil, Hydraulic and Electrical Connections.

Construction will consist of the following:

- Extension to present Power House Building.
- Brick Building over one Deep Well and Pumps.
- Pole line improvements.
- 1 5'x150' Chimney and foundations.
- 1 Spray Cooling Pond.

Loading, moving and setting on foundations the above machinery and equipment.

Building foundations for above machinery and equipment, setting two 300 H. P. Boilers.

Erecting all steam, exhaust, hydraulic, electrical and oil connections.

Boring two deep wells.

Moving out of present Power Plant the following equipment:

- 1 Centrifugal Pump and Motor.
- 2 Steam Fire Pumps.
- 2 Steam Air Compressors.
- 1 Oil Engine Unit.

Specifications for bidding will be furnished by Engineers on request.

Each bid must be accompanied by a certified check on a bank satisfactory to the Trustee of Finance, or bidders bond for 5% of the amount of the bid.

A bond in the sum of 50% of the amount of the contract will be required for the faithful performance of the equipment and work.

Copies of plans and specifications may be seen at the office of the Trustee of Finances' Office or at the Office of the Engineers, Atlanta, Georgia, and Lafayette, Louisiana.

The City reserves the right to reject any or all bids.

City of Lafayette, Louisiana,  
ROBERT L. MOUTON, Mayor;  
LOUIS CHOPIN, Trustee of Finance;  
WILSON J. PECK, Trustee of Public Property.  
The J. B. McCrary Company, Engineers.

Bids close December 11, 1922.

**Sewer Pipe**

Sanford, Fla.  
Sealed proposals will be received by the City Commission of Sanford, Fla., at their office in the City Hall on or before 8 P. M., December 11, 1922, for the following materials:

Approximately 22,235 ft. 6, 8, 10, 12, 15, 18, 21 and 24-in. No. 1 sewer pipe.

Approximately 731 ft. 36-in. circular sewer.

Approximately 915 ft. 33-in. circular sewer.

Approximately 740 branches, 8, 10, 12, 15, 18 and 21 in. diameter pipe.

The pipe to be delivered at Sanford, Fla., as ordered by the City during the six months following acceptance of bid.

Specifications and form of proposal can be secured at the office of City Manager.

The City Commissioners reserve the right to reject any or all bids, or to accept any or all bids, or to accept any bids they deem to be for the best interests of the City.

C. J. RYAN, City Manager.

Bids close December 4, 1922.

**Electrical Fixtures**

Tunica, Miss.  
The Board of Supervisors of said County and State will, on the 4th day of December, 1922, receive bids on electrical fixtures for the new Courthouse, according to plans and specifications on file in the office of the Chancery Clerk, Tunica, Miss., and in the office of Frank P. Gates, Architect, Clarksdale, Miss., and which plans and specifications will be issued from the office of the said Architect on application and deposit of \$10.00 as evidence of good faith, and which will be refunded on return of said plans and specifications. A certified check in the sum of 5% of the amount of the bid to be filed with the bid, and a contractor's bond in the sum of 100% of the contract, to be filed within 10 days from acceptance of bid. The Board reserves the right to reject any or all bids. The contract will be let to the lowest bidder.

Given under my hand and seal of office, this, the 8th day of November, 1922.

L. C. SHANNON, Clerk.

Bids close December 5, 1922.

**Steam Turbine, Condenser and Switchboard**

Brookhaven, Miss.  
Sealed proposals will be received by the Board of Mayor and Aldermen of the City of Brookhaven, Miss.

For One 500 K. W. steam turbo generator.

One Condenser for turbine.

One Switchboard.

Bids must be placed in the hands of the City Clerk not later than 8 P. M., December 5, 1922.

Specifications may be had by application to R. S. Purser, Supt. Light and Water Dept., or may be seen on file at the office of the City Clerk, City Hall.

**Wanted—Sub-Contractors**

for large lot of carpentry work, framing and interior finish. Apply

King Lumber Company,  
Charlottesville, Va.

# CLASSIFIED OPPORTUNITIES

**MINERAL AND TIMBER LANDS WATER POWERS, MISCELLANEOUS PROPERTIES**

**FOR SALE**—Unincumbered fee in 160 acres Coal and probable Oil and Gas Land situated within about ¼ mile of platted district of town of Henryetta, Okmulgee County, Oklahoma. Operating mines on 3 sides; railway switch on tract; portion of tract can be stripped. J. S. Lambard, Okmulgee, Okla.

**FOR SALE**

Half or all of the biggest and best Amphibole Asbestos Proposition in the States. Have engineers' reports; analysis; sample fire brick, shingles, moulds, crucibles made from it. Near Atlanta. Unlimited quantity and field for such products. Bonner, 306 Commerce Bldg., Nashville, Tenn.

Wealth in virgin coal fields in Northern Alabama, near Tennessee River. Ready to mine with electric equipment; entries driven. Superior domestic, steam and gas coal; unsurpassed in the South as an export coal. Iron ore, fire-clay, cement rock and limestone in vast quantities. Five million feet of Poplar, Oak and Hickory timber on property. Industrial railroad connecting with Southern Ry. system. Soil overlying 16,000 acres, ideal for cattle, sheep and Angora goats and for fruit raising. For full particulars, price and terms, write F. D. Pierce, 1505 E. Genessee St., Syracuse, N. Y.

**TIMBER OPERATIONS**

"Hardwood Saw Mill and Timber"—One seven-foot Clark band mill, two engines, three boilers, locomotives, log loader, log cars, rail, tools, electric light plant, etc. Store house, 21 dwellings. Complete equipment all new in 1920; 6925 acres hardwood. Write for full details to R. P. Johnson, Wytheville, Va.

**COAL LANDS AND MINES**

**FOR SALE**—Going coal mines—coal, oil and gas lands—timber tracts. Reports made on same anywhere. E. H. Morris, Box 518, Charleston, W. Va.

**MINING PROPERTY**

In W. Va., on C. & O. R. R.; 2000 acres fully equipped mines. Capacity of 500 tons of Pool No. 1; will sacrifice for quick sale.

**INFORMATION**

will be furnished responsible interested parties.

**DALE THOMAS**

603 Charleston National Bank Building  
Charleston, W. Va.

**FOR SALE**—Arkansas Coal Property. Two going mines, one steam and electrically equipped, with production of 350 to 400 tons daily. Can be put to 700 tons with present equipment. 200 acres favorable lease, 100 acres fee, 45-inch seam with dirt band for machine mining. Analysis 14640 B. T. U. Address No. 6089 care Manufacturers Record, Baltimore, Md.

**RATES AND CONDITIONS**

Rate 30 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. *When the advertisement contains a number of long words, proper allowance should be made.* Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 28c. per line; 300 lines, 26c. per line; 500 lines or more, 25c. per line.

**MANGANESE PROPERTY**

I have a large tract of Manganese Ore, this is a vein ore, not pocket, 1150 acres, and as duty on Manganese ore from foreign countries is \$12.00 per ton, good opportunity for parties interested. J. E. Hill, 1212 North 12 Court, Birmingham, Ala.

**TIMBER WANTED**

LOUISIANA—Want thirty to one hundred million feet Long or Short Leaf Pine on stump, in Louisiana or Texas. Send date, lowest price. A. W. Johnson, 212 Mass. Bldg., Kansas City, Mo.

**TIMBER**

TENNESSEE—Offer 40,000 acres, will cut two hundred million feet Spruce, one hundred million hardwood \$10.00 per acre. Write A. W. Johnson, 212 Mass. Bldg., Kansas City, Mo.

**FARM AND TIMBER LAND**

FLORIDA—Timber, Colonization and Fruitland tracts; any size; best in Florida. Maurer Company, Orlando, Fla.

**FARM, FRUIT, AND TRUCK LANDS****FLORIDA**

FLORIDA—Did you know that Florida is developing faster than any other State in the Union? It is, indeed, a land of great resources and opportunities. Come and be one of us. No coal bills, no wintry ice or snow—just sunshine, and health, and opportunity. Send for booklet "Largest Orange Tree in the World;" we have a Home Grove or Farm for you. Tampa-West Coast Realty Co., (Inc.), opposite Post office, "Since Before the War," Tampa, Fla.

**FARM, FRUIT, AND TRUCK LANDS****NORTH CAROLINA**

ORCHARD for commercial fruit growing in an ideal climate, 93 acres, 1800 bearing apples, 400 bearing peaches, all good, commercial varieties and orchards in pink of condition. Three dwellings, two apple storage cellars, three barns, etc. Complete orchard and farm equipment of stock and tools. Our apples take premiums every year at State Fair. \$12,000 easy terms. Buena Vista Orchards, Gilreath, N. C.

**SOUTH CAROLINA**

Truck farms that pay dividends annually can be bought at reasonable prices here. Vegetables are shipped eight months in the year. Three and four crops are grown on the same land annually. Excellent climate and health. Plenty of labor; strikes unknown. Well organized association that sells all farm products. For particulars write, Lake Realty Company, Beaufort, S. C.

**TEXAS**

2000 acres Caney valley land, fertile, level, well drained, does not overflow, partly improved, on R. R. Grows crops all year round without irrigation. Sacrifice \$30 per acre. W. A. Moore, Ashwood, Matagorda, Tex.

**BUSINESS OPPORTUNITIES**

I SPECIALIZE in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW, Colorado Building, Alexandria, Va. Washington, D. C.

Interest open in Marine Transportation and Commission Company. Business enough from South to earn \$300,000 Net Annually. 25% on capital invested. Alfred S. Perry, Perry Building, Fairfield, Conn.

A FARMERS ORGANIZATION with thousands of stockholders in Maryland, Virginia and North Carolina, consisting of dairy-men, truckers, orchardists, poultrymen, live stock and general farmers, solicits manufacturers connections for needed requirements. Financial reliability assured. Address 6064 care Manufacturers Record, Baltimore, Md.

Contractor with good financial connection will assist to promote and build industrial or railroad proposition of unquestionable merit. Address No. 6088 care Manufacturers Record, Baltimore, Md.

FOR LEASE—Office space in Rhodes Building and loft space in adjoining connecting building, fireproof, steam heated, on main thoroughfare, three blocks from center of city, especially adapted to Manufacturers' Agents, carrying stocks or samples. Let us furnish particulars as to service rates, etc. A. G. Rhodes & Son, 202 Rhodes Building, Atlanta, Ga.

WANTED—A party to purchase or help develop some Arizona copper claims.

Box 704  
Mobile, Alabama



BUSINESS OPPORTUNITIES

**WANTED**—Party capable of managing office and able to furnish \$15,000.00 to join in purchasing controlling interest in old established Manufacturing and Jobbing Supply House. Experience with mine and mill trade desirable, though not essential. Good salary, absolute protection, and handsome returns on investment. This is not a promotion, but a sound business proposition. Address A. R. Dearborn & Company, Birmingham, Ala.

Retiring manufacturing chemist, 20 years experience, has for sale formulas for line Toilet Preparations, Perfumes, Flavoring Extracts and Medicinal Preparations second to none. Several specialties not made by any other houses. Will sell part of all formulas. Would establish laboratories. Samples submitted. Address Chemist, 701 James Building, Chattanooga, Tenn.

If interested in the  
**BEST SECTION OF THE SOUTH**  
If you want a Cotton Mill,  
or Southern Mill Stocks  
or Investment in Central Real Estate  
or Large Suburban Development property  
or a Manufacturing Site  
Address  
**F. C. ABBOTT & COMPANY**  
Trust Building, Charlotte, N. C.

FINANCIAL

**NOTICE TO PUBLIC OFFICIALS**—Have you a bond issue for sale and which you have failed to sell satisfactorily? Are you contemplating public works such as water system, electric lights, funding debt, schools, roads, streets, etc. Would you like to know how to get the right prices and terms for all the contracts concerning these things? Would you like to know why half of all this business in North Carolina is managed in our office with an absolute guarantee in each case to save the taxpayers five times as much as our total charge or we get no pay? If you want the facts for your own state, write us your plans and we will furnish you full and free information without any cost or obligation on your part. Our business is solely to help you in selling the bonds and making the contracts in the interest of the taxpayers. Address Bruce Craven, Trinity, N. C.

Wanted to bond our company for \$100,000 in such a way that it will pay out in seven years. Will pay 8%, and defray expenses of appraising and drawing papers. We carry at least \$250,000 worth of real estate. Investment perfectly safe. What can you offer? Box 511, Charleston, W. Va.

The Fraudulent gold basis "Federal Reserve Act" destroys the control of our Government over its money system and is a ruinous betrayal of the people by Congress. Read its exposure and the Remedy in "Democracy vs. Plutocracy," by T. Cushing Daniel. Popular Edition, 25 cents. The Monetary Educational Bureau, 1416 F St., Washington, D. C.

I have connections with brokers who buy reliable issues of dividend paying securities. I can place you in touch with 1,000 brokers. B. Yorkstone Hogg, Ft. Pierce, Fla.

**BONDS**—Have buyers for manufacturing, mercantile, industrial, mining; entire issues. A. W. Johnson, 212 Mass. Bldg., Kansas City, Mo.

COLLECTIONS

Past due accounts collected promptly on commission basis—send us statements—no collection, no charge. Remit on day of collection. Rate card on request. Correspondence in all cities. Herbert & Co., Rand McNally Building, Chicago, Ill.

INDUSTRIES WANTED

MISCELLANEOUS

Manufacturing plants and other industries are invited to locate in Boonville, Mo., where facilities and resources are attractive. Ideal community conditions for labor. Address H. C. Neef, Secy., Chamber of Commerce, Boonville, Mo.

INDUSTRIES WANTED

MISCELLANEOUS

CENTRAL NEW YORK

Railroad company offers several large factory buildings together with nine dwelling houses for sale or lease. Suitable for textile, shoe, automobile, farm implement or other similar industries. Cheap electric power. Address General Manager, SOUTHERN NEW YORK POWER & RAILWAY CORPORATION, Oneonta, N. Y.

Unexcelled opportunities in Cedartown for parties with some capital to organize and assume management of Underwear Mill, Brick Plant and Overall and Working Clothes factory. Abundance of raw material, cheap and efficient labor and excellent shipping facilities. Write Cedartown Chamber of Commerce, Cedartown, Ga.

Forrest City, Ark.—Wants and needs a Modern Hotel, Canning Factory, Peanut Factory, Pickling Vat, Cotton Mill. We have the productive territory and railroad facilities. Forrest City Chamber of Commerce.

FACTORY SITES

BALTIMORE

FACTORY

SITES

William Martien & Company.

1413 Lexington Bldg.

Baltimore, Md.

Factory site, of entire block on railroad with brick buildings at West Norfolk, Va. Hastings Bros. Norfolk, Va.

NORFOLK FACTORY SITES

\$13,000,000.00 being spent on New Port Development. Big business interests are coming this way. Factory sites on Belt Line, inside and adjacent to city, water and commercial electric power, shipping and housing facilities. Liberal proposition to substantial enterprises.

Bellamy & Hough, Incorporation,  
8 Arcade Building, Norfolk, Virginia.

PATENT ATTORNEYS

**PATENTS**—Booklet free. Highest references. Best results. Promptness assured. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

**INVENTORS**—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent" sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chand-lee & Chandlee, 412 7th St. N.W. Washington, D. C.

**PATENTS, TRADE-MARKS AND COPYRIGHTS**—Write for our Free Illustrated Guide Book and EVIDENCE OF CONCEPTION. BLANK. Send model or sketch and description of your invention for our opinion of its patentable nature free. Highest references. Prompt service. Reasonable terms. Victor J. Evans & Co., 712 9th St., Washington, D. C.

PATENT-SENSE.

"The Book for Inventors  
and Manufacturers."

FREE. WRITE

LACEY & LACEY,

Dept. 15. Washington, D. C. Est. 1869.

AGENCIES WANTED

**MANUFACTURERS REPRESENTATIVE**—Established engineering concern, offices in Buffalo, N. Y., desires high-class proposition. Have no present connections. Care 6092 Manufacturers Record, Baltimore, Md.

SITUATIONS WANTED

Young business man representing one of the largest manufacturers of his kind in the world, will be open for connection January 1st. Must be permanent, high-class and legitimate. A-1 References. Correspondence from high-class and well-rated firms only solicited. Address 6091 care Manufacturers Record, Baltimore, Md.

**ENGINEER-SALESMAN**, traveling South-eastern States, all cities and large towns, wide acquaintance with engineers, contractors, manufacturers, and other business men in territory; will handle business for manufacture of line of goods acceptable to above class of trade. Strict commission proposition. Address 6095 care Manufacturers Record, Baltimore, Md.

**MECHANICAL AND MILL ENGINEER**—40, desires position as superintendent or master mechanic—18 years practical experience in mill construction, their economical and continuous operation and maintenance; quarry and pit operation; ore handling and reduction, efficient handling and organizing of operating force. A1 references. No. 6096 care Manufacturers Record, Baltimore, Md.

MEN WANTED

A LEADING ORGANIZATION desiring to fill an important position, for obvious ethical and other reasons, cannot invite directly the candidacy of any particular man. Similarly, no well-connected man will exploit personally his own qualifications, no matter how receptive he may be to overtures. The undersigned has been retained by a national clientele for many years, as a medium for negotiating preliminaries in such cases. Your permission to send booklet discussing this problem and describing the service, will in no degree obligate or compromise you. Strictly confidential. R. W. Kirby, Inc., 303 Lockwood Bldg., Buffalo, N. Y.

Wanted—Sales engineer between ages of 25 and 35, familiar with concrete and structural steel design. Furnish experience along the lines of sales and engineering work and salary expected. Do not apply unless able to cover your territory at least 75 per cent of the time. Salary attractive for the right man. Address No. 6093 care Manufacturers Record, Baltimore, Md.

Wanted—Chamber of Commerce Secretary in a growing north Louisiana town. Must be in addition to other qualifications, a good publicity man. Apply with full particulars in first letter to A. H. Henderson, Ruston, La.

LUMBER AND BUILDING MATERIAL

FOR SALE

1 car  $\frac{5}{8} \times 3 - 2\frac{1}{2}$ " Fc. B. & Better Ceiling  
 $\frac{1}{2}$  car  $\frac{5}{8} \times 3 - 2\frac{1}{2}$ " Fc. No. 1 Conn. Ceiling  
 $\frac{1}{2}$  car  $\frac{5}{8} \times 3 - 2\frac{1}{2}$ " Fc. No. 2 Conn. Ceiling  
2 cars 32" No. 1 Kiln Dried Plaster Lath  
4 cars 32" No. 2 Kiln Dried Plaster Lath  
**INGRAM-DAY LUMBER COMPANY**  
Lyman, Mississippi

MACHINERY AND SUPPLIES

Valves, pipe fittings, all kinds and sizes; new stock. Can positively save you money on quantity purchases. What are your requirements? Pratt Thompson, 220 E. Lexington St., Baltimore, Md.

**FOR SALE**—100,000 new Granite Paving Blocks,  $3\frac{1}{4}$  to 5-in. wide. 4 to  $4\frac{1}{2}$ -in. deep, and 8 to 12-in. long. Price \$65.00 per 1000. F. O. B. cars. Tallahassee Power Company, Badin, N. C.

**TRACTORS**—We are offering at reduced prices several Cletrac Model W Crawler type tractors. These tractors are new and have never been used. Speer & Watkins, Anderson, S. C.

FOR SALE.

1—Right Hand, 1—Left Hand 26x48 Bass Corliss Engines American System Rope Drive, 18 foot fly wheel, 9 foot jack shaft, 15-2" ropes.  
3—250 H. P. B & W Type boilers.  
1—600 H. P. B & W boiler. All with stackers.  
Calumet Steel Company, 208 South La Salle Street, Chicago, Ill.

## SPECIAL ADVERTISEMENTS OF GENERAL INTEREST

### For Sale

#### Hydro-Electric Plant—Bargain

Located in Georgia on two Trunk line Railroads, Developing 300 H.P. complete with generators transmission lines, etc. Present income from sale of power about \$6000.00. By raising Dam 12 feet can be made to realize \$15,000.00 per year. Offered for quick sale at \$35,000.00 half cash balance in one to three years. Excellent location for cotton mill.

**T. D. Hoskins, Boaz, Ala.**

### Industrial Location

I will furnish two-story Building 30x60, Railroad Siding and Electric Current alongside, for an interest in a reliable manufacturing proposition. Location near Trenton, N. J. Address

**CHARLES T. EASTBURN**

803 Broad St. Bank Building

Trenton, N. J.

## OPPORTUNITIES

### Industrial and Agricultural

The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

**Commercial & Agricultural  
Dev. Dept.—Above Lines  
Atlanta, Georgia**

## BUSINESS OPPORTUNITY

### FOR SALE

Controlling interest in a well established Saw Mill Machinery Contractors Equipment and Oil Field Boiler Business. Located in one of the best sections of the South.

Sales over \$20,000.00 first part of month. Purchaser must understand the business and be capable of taking charge; must have \$25,000 cash. Give details as to ability, etc., first letter. All communications held strictly confidential.

**Address A-274 Manufacturers Record  
BALTIMORE MARYLAND**

## Foreclosure and Receivers' Sale Of the Property of the Boone Fork Mfg. Co.

Two complete band saw mills, electric driven, with a capacity of 60,000 feet each per day, with power plants, railroads, railroad equipment, machine shops, logging machinery and equipment, by-product plants and planing mill. These properties are in first-class order and ready to operate, with excellent hardwood timber reserves, a majority of which are owned in fee.

One of these mills is situated at Shulls Mills, Watauga County, North Carolina, and the other at Murphy, Cherokee County, North Carolina.

The properties will be sold at Public Sale, to be held on the following dates:

**For Shulls Mills property at Boone,  
North Carolina, on January 5, 1923**

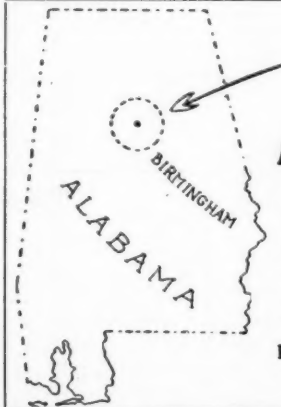
**For Murphy property at Murphy,  
North Carolina, on January 9, 1923**

### TERMS REASONABLE

Apply to Receivers for catalogue giving terms and a description in detail of the properties, buildings, equipment, supplies, etc.

John A. Hambleton	} Foreclosure Receivers.
Duff Merrick	
W. S. Whiting	} General Receivers.
John A. Hambleton	
W. W. Miller	

**Offices: Asheville Citizens Building  
ASHEVILLE, N. C.  
P. O. Box 1187.**



## Plant Sites For Sale in the Birmingham District

### HYDRO-ELECTRIC POWER EQUABLE CLIMATE

Sizes to suit all needs on all railroads. Supplies of coal, coke, iron and steel within trucking distance.

Labor situation better than in other industrial centers. Hydro-electric power available. Equable climate. Address

**BIRMINGHAM REALTY CO.**

Owners  
BIRMINGHAM, ALA.

## FOR SALE A STEEL FRAME CONSTRUCTION DAYLIGHT BUILDING

293' x 74½'

This building is brand new, Blueprints will be furnished and inspection may be made at the Aberdeen proving grounds, upon application to

**UNITED IRON & METAL CO.  
CATHERINE ST. and B. & O. R. R.  
BALTIMORE, MD.**

# LOUISVILLE

## STOOD STILL



—when it came to out-growing one habit  
—her old-fashioned courtesies remains.

Louisville makes you welcome. You will find that she hasn't forgotten how to "keep open house", or the true purpose of all industry—*helpful service*.

You will be gratified with the Louisville market. Merchandise, prices, terms and the time it takes to deliver—every modern factor that makes for advantageous trading on your part—is here for you.

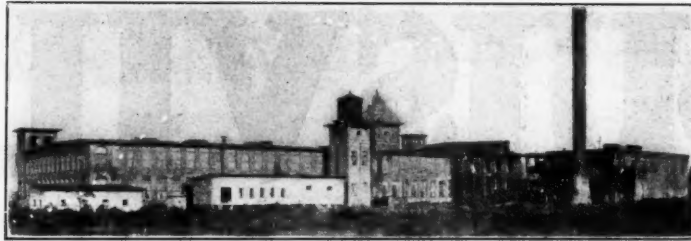
*A postcard inquiry to our secretary will bring you quotations from Louisville merchants and manufacturers specializing in your lines.*

**MERCHANTS & MANUFACTURERS ASS'N.**  
INCORPORATED  
**"Refunds Your Fare From Anywhere"**

ROBERT M. KERR Secy.





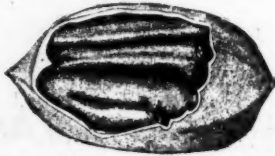
**FOR SALE****Hamilton Carhartt Cotton Mills, Mill No. 4, Mobile, Ala.**

This completely equipped cotton mill with village and appurtenances will be sold at public auction for benefit of second mortgage bondholders on December 6th, 1922, in front of the courthouse at Mobile, Ala., sale being subject to first mortgage of \$80,000 on the property.

The mill contains 16,040 ring spindles and 414 Draper looms, has two up-to-date dyehouses, modern steam power plant and machine shop, three cotton warehouses, office building, store, school house, church, etc. etc. Village is attractive and contains 74 cottages in good condition. Mill has been producing sheetings, khaki, awning cloth and yarns.

For inventory, photographs and detailed description address

**Union Bank & Trust Co., Trustee, Montgomery, Ala.**

**"The Pecan Business For Profit and Pleasure"**

This free booklet tells how to plant, cultivate, fertilize, spray, gather, and sell the nuts. A pecan grove solves the labor problem. 20,000 trees for sale.

**B. W. Stone, Thomasville, Ga.**

**BLUE BOOK OF SOUTHERN PROGRESS**

Many individuals and organizations have distributed copies of this book by the hundreds. It is crammed full of facts and figures of the South's resources and development that Business men could study with profit. *Single copies 50c.*

**Manufacturers Record,**

**Baltimore, Md.**

**BOONVILLE**

*In the Heart of Missouri  
In the Heart of America*

Population 5,000 and growing, with substantial industries, and natural resources. Overlooks the Missouri River—inexhaustible water supply—power possibilities—navigable, encouraging competitive rail rates. Served by M. K. & T. Ry. in three directions; by Missouri Pacific R. R. in three directions.

**Extensive Deposits of CANNEL COAL.  
BITUMINOUS COAL STONE CLAY  
AGRICULTURAL PRODUCTS  
ORCHARDS VINEYARDS  
Ideal Community Conditions for Labor.**

**ON THE MAIN CROSS-STATE TRUNK  
LINE OF THE NEW MISSOURI CON-  
CRETE HIGHWAY SYSTEM. \$600,000  
FREE BRIDGE UNDER CONSTRUCTION.**

**INVITES NEW INDUSTRIES AND  
BRANCHES OF PRESENT ESTAB-  
LISHED MANUFACTURING PLANTS.**

**Address, H C. NEEF, Secretary,  
CHAMBER OF COMMERCE  
Boonville, Missouri**

**FOR SALE**

We have purchased the Carolina Shipyard which is located at Wilmington, N. C. This tract of land offers a great opportunity for manufacturing purposes of most any kind of industry. It has a great water front of 1150 feet on Cape Fear River, bounded on the North by the Texas Oil Co.'s property. It has six miles of railroad track on property with all improvements, such as warehouse, office buildings, power house, water and fire system. We will sell at a very interesting price, all, or any part thereof for manufacturing or storage purposes. This plant has the finest water and rail facilities. We also have a number of other items to dispose of such as electric hoists, derricks, locomotives, railroad cars, locomotive cranes, pumps, boilers, engines, 200 tons of 67½ lb. rail and a lot of different material too numerous to mention at a sacrifice price as this must be sold.

**H. Klaff & Co.  
Central Avenue & Gough Street  
BALTIMORE, MD.**

## THE TEXAS AND PACIFIC RAILWAY CALLS ATTENTION

To the territory served by its lines in Louisiana and Texas, and investigation is requested concerning the many opportunities for the location of industries and warehouses at the numerous commercial centers, which are admirably located for manufacture and distribution.

Information concerning resources of territory, power, water facilities, prices of property, are solicited.

We wish to assist and co-operate in the proper location of industries.

Address

**FRANK J. BURKE**

Land and Industrial Commissioner  
DALLAS, TEXAS

## To the MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

## Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

**J. M. MALLORY, General Industrial Agent**  
SAVANNAH, GEORGIA

## SAMUEL T. FREEMAN & CO. AUCTIONEERS

1519-21 Chestnut Street, Philadelphia

## RECEIVERS' SALE IN EQUITY

In the United States District Court for the Western District of Pennsylvania, May Term, 1920, No. 354

## VALUABLE PLANT

REAL ESTATE, PATTERNS, MACHINERY,  
AND MATERIAL OF THE UNITED  
STATES & CUBAN ALLIED  
WORKS ENGINEERING  
CORP., BRADFORD,  
PENNSYLVANIA

Monday, December 4, 1922, at 1 P. M.

and

Tuesday, December 5, 1922, at 10 A. M.

*On the premises*

REAL ESTATE—Modern Steel Daylight Construction Machine Shop, Brick Foundry, Brick Pattern Shop, Power House and Storage Sheds and about 6 acres of ground, with siding from the Erie Railroad.

PATTERNS—Complete equipment of Patterns for Air Compressors and Engines; also for Sugar Machinery. Also Special Jigs, Dies and Tools and large tonnage of Castings both finished and in the rough for the same.

MACHINERY—The Machinery comprises 7 Planers, 49 Lathes, 4 Milling Machines, 9 Drill Presses, 3 Horizontal and 3 Vertical Boring Mills, 2 Barrett Boring and Facing Mills, 2 Hydraulic Presses, 2 Shapers, 12 Grinders, 20, 15 and 5 ton Electric Traveling Cranes, 6 Hand Traveling Cranes, Jib Crane, Wood Working Machinery including Band Saw, Lathe, Circular Saws, etc.; Power Plant including 125 hp. Gas Engine and 100 kw. Generator, 150 hp. Motor connected to 120 kw. Generator, Switchboards, 100 hp. Gas Engine, 10 Motors, Pumps, etc. Also Rheo Roadster, International Truck, Office Furniture, Adding Machines, Typewriters, etc.

By order of F. Clyde Sullivan } Receivers  
William L. D'Olier }

Saul, Ewing, Remick & Saul, Esqs. 1835 Land Title Bldg., Philadelphia.

Gwilym A. Price, Esq. Frick Building, Pittsburgh, Pa., Attorneys-for-Receivers.

*Catalogues Mailed upon Application to*

**SAMUEL T. FREEMAN & CO.**  
AUCTIONEERS

1519-21 Chestnut St.

Philadelphia, Pa.

## DO YOU NEED AN EXECUTIVE

who has

### INTELLIGENCE, INITIATIVE, INTEGRITY

who has had twelve years industrial experience, is in the early thirties and for the last three years has been an executive of a large industrialization project.

This project is drawing to a close, and if you are in a sound, legitimate business that needs intelligent direction I would like to get in touch with you. Principals only.

Address A-277 care Manufacturers Record  
BALTIMORE, MARYLAND

## Hauling Problems Solved

For Road Contractors and Industrial Operators by Hauling Engineers.

We have large fleets of motor trucks, from one to seven ton capacity—ready to haul for any contractor on any job, anywhere.

We have dump trucks, or stake bodies—can handle loose or batch aggregate—cement, lime, stone, dirt, lumber, anything.

Service our motto—Let us quote you and show how we can save you money.

# FARBER

SERVICE

Farber Contracting Co.

No. American Bldg., Phila., Pa.

TRUCKS GO EVERYWHERE

## MACHINERY AND EQUIPMENT WANTED

### Freight Cars

We are in the market for all-steel or steel underframe freight cars of not less than 40 ton capacity.

E. H. WILSON & COMPANY  
COMMERCIAL TRUST BUILDING  
PHILADELPHIA

### WANTED 1 Yard Dredge

Want to purchase one second-hand Bay City dredge, walker or track type, one yard capacity. Gears, drums and working parts must be in good condition and a bargain. Will pay cash. Answer quick and give full description.

ALBERT M. ALEXANDER, Contractor  
ROSEDALE, MISS.

### WANTED

Several eighteen inch conveyor belts with troughing pulleys, take up and driving pulleys. State what you have to offer, giving full description of condition, location and lowest price spot cash.

ROPER-STRAUSS-FERST CO.  
Birmingham, Ala.

### WANTED

Following material New or Used.  
2,800 Ft. 6" Water Pipe for 150 lbs. Pressure.

6 Fire Hydrants for 2½ Inch Standard Fire Hose.  
7 Tees and 7 Elbs.

FLORIDA TERMINAL CO.  
Fernandina, Florida

### WANTED AT ONCE STEAM SHOVEL

¼ to ¾ yard Good Second-hand Steam Shovel. Mail all replies to

ROANOKE BRICK CO. or D. J. PHIPPS  
Roanoke, Virginia

## RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES

### 250 to 1000 H. P. WATER TUBE BOILERS

#### Immediate Delivery!

New, high-grade water tube boilers, 250 to 1000 H. P. ready for immediate delivery from points in the East, North and Central West.

Steel encased or for brick setting. Immediate delivery can be made from Chicago or our Eastern Headquarters in New Jersey, opposite New York City or Slidell, Louisiana near New Orleans.

Our low, quick sale price offers a saving of from 25% to 50%.

Your old equipment will be taken in on a liberal exchange arrangement.

Our thoroughly posted engineers are waiting to give you expert service and complete details.

Quick action will enable us to guarantee quick installation.

HARRIS BROTHERS COMPANY  
West 35th & Iron Sts.  
CHICAGO

### Rebuilt and New ELECTRIC MOTORS, GENERATORS AND TRANSFORMERS

All Standard Makes.

Sold, bought and exchanged.  
Our rebuilt motors stand every test of new motors; \$900 always in stock; send for stock list. Write what you want or have to sell.

FUERST-FRIEDMAN CO., Cleveland, Ohio

### BARGAINS IN NEW TOOLS

LATHES	
1-19"x12" Sidney Lathe .....	\$700.00
1-17"x10" Sidney Lathe .....	650.00
1-16"x8" Sidney Lathe .....	500.00
1-15"x8" Sidney Heavy Lathe .....	900.00
SHAPER	
1-20" Cincinnati Shaper .....	700.00
GRINDER	
1-No. 0 Wilmarth & Morman Grinder .....	300.00
MILLING MACHINES	
1-No. 1 U. S. Hand Milling Machine Vise & Cutter Arbor .....	200.00
BAND SAWS	
1-32" Sidney Band Saw .....	150.00
1-36" Bintel & Margedont used .....	175.00
1-25 lb. Champion Belt Driven Hammer ..	100.00
1-No. 18-P Marshalltown Throatless Shear ..	40.00
1-Type 6 AU Standard Aerial Grinder....	65.00
1-No. 40 Machinery Company of America Hand Saw Sharpener and Gummer .....	40.00
If interested in these tools, write or wire,	
MILLS & LUPTON SUPPLY COMPANY, Chattanooga, Tenn.	

### BOILERS For Sale

4-225 H.P. Horizontal  
Tubular Boilers, butt strapped, complete with fittings.

McDERMOTT BROS. CO.,  
Allentown, Penna.

### HOISTING ENGINES

2-7"x10" D.C.D.D. "American Hoist & Derrick Co." With boilers.  
Bought in 1919.

L. F. SEYFERT'S SONS INC.  
437 N. 3rd St. Philadelphia, Pa.

If you wish to keep posted on the progress of the South, read the

Manufacturers Record  
Exponent of America

Price \$6.50 a year Six months for \$3.50



## BOILER BARGAINS

**Don't Miss This Opportunity**

Through a fortunate purchase of Government surplus war equipment we can replace your old boilers with practically new water tube boilers, used less than six months.

### SPECIFICATIONS

250 H.P. units; 200 lbs. working pressure; 300 lbs. hydrostatic test; hot rolled seamless steel tubes extra thick 9&10 gauge; steel casings; no brick setting necessary (only fire brick linings); evaporation 10½ lbs. guaranteed; minimum floor space.

### STOP WASTING FUEL

We can replace your old boilers with these boilers which are as economical as can be bought regardless of price. We can install them at such saving to you in first cost as to compel your immediate attention. Write us today advising horse power required; floor space; head room; location of R.R. siding, chimney, etc. giving us if possible a sketch of your boiler room and we will mail you an estimate covering boilers installed in your plant.

### OTHER BARGAINS

Motors, cars, rail, hoisting engines, pipe, radiators, condensers, pumps, shafting hangers, pulleys, etc. over one hundred car loads of machinery in stock.

**HACKLEY MORRISON CO.**

**Richmond, Va.**

NEW AND SECOND-HAND

## MACHINE TOOLS

**HENRY PRENTISS & CO.**

Incorporated

149 Broadway New York, N. Y.  
Warehouse: Jersey City

**White Pine! White Pine! White Pine!**

We have it. Log run Mill Culls out in good dry stock ready for prompt shipment in 4/4, 5/4, 6/4, 8/4, 12/4.

Wire or write for delivered price.

**WHITE OAK LUMBER CO. - Harriman, Tenn.**

## NEW STRUCTURAL STEEL

200 Tons (4700 Pieces) 5", 9¾ lb. I-Beams 9' 0".

To complete shipments from this point.

\$22.00 Net Ton f.o.b. New Cumberland, Pa.

**HENRY A. HITNER'S SONS CO.**

4501 Richmond St. PHILADELPHIA, PA.

## BOILERS-250 H.P.-CROSS-DRUM WATER-TUBE

**SATISFACTORY SERVICE ASSURED**

**UNITED STATES POWER**

**EQUIPMENT CO. NOT INC.**

122 SO. MICHIGAN AVE.

CHICAGO, ILL.

## 120 K. V. A.

3 phase, 60 cycle, 2300-440-220 volts General Electric generator, direct connected to 12x24 Hamilton, 4 valve, non-releasing gear Corliss engine, complete with belted exciter, switchboard and instruments. Price \$3500.00.

**COLEMAN-SHOEMAKER, INC.**

20th & Clearfield Streets - Philadelphia

## DOUBLE HEAD PLANER FOR SALE

1—Pond 24-ft. Double Head planer 39'-0" over all, in A1 condition.

**McCALLUM HOSIERY COMPANY**

NORTHAMPTON, MASS.

## USED OIL ENGINES

20, 35, 40, 50, 60, 85, 100, 120, 140, 150, 200, 225, 280 and 500 H.P. used oil engines in good condition. Write for prices.

**ROBERT P. KEHOE**

7 East 42nd St., New York City  
Telephone Vanderbilt 9595

## 25 CYCLE MOTORS

1—150 HP, 500 RPM, 3 Ph, 440 V. W. H. slip-ring.  
1—150 HP, 500 RPM, 3 Ph, 440 V. Allis-Chalmers.  
2—50 HP, 750 RPM, 3 Ph, 440 V. G.E. & F.M.  
1—40 HP, 750 RPM, 3 Ph, 440 V. F.M. slip-ring.  
1—40 HP, 750 RPM, 3 Ph, 220 V. G.E.  
1—25 HP, 750 RPM, 3 Ph, 2200 V. G.E. slip-ring.  
Many Smaller Sizes, 25 and 60 Cy, A.C. and D.C.

**V. M. NUSSBAUM & CO., Fort Wayne, Ind.**

## FOR SALE

150 H.P., 3 cyl. vertical Rathbun-Jones gas engine. Good operating condition. Will quote attractive price.

**The Seneca Wire & Mfg. Co.**

Fostoria, Ohio

## IN TROUBLE MOTORS RENTED

**Any Size or Kind**

Largest stock of its kind in America.

**NATHAN KLEIN & CO.**

208 Centre St., N. Y.

## 400 K. W. PLANT A REAL BARGAIN FOR QUICK SALE

2—Used 300 H.P. type T.A. DeLaval Turbines each mounted on common base with and direct connected to 2—100 K.W. each, 80% E.F. Bullock, 3 phase, 60 cycle, 240 volt, 900 R.P.M. Generators making 400 K.W. capacity, either 240 or 480 volts. Units complete with exciters, switchboard instruments, barometric condenser, connecting piping, circulating pumps, vacuum pumps, and accessories. Plant can also be operated non-condensing if desired. Full particulars on request.

— ALSO —

**BOILERS ENGINES MOTORS GENERATORS**

**THE RANDLE MACHINERY CO.**

Established 36 years

1734 POWERS ST. CINCINNATI, OHIO

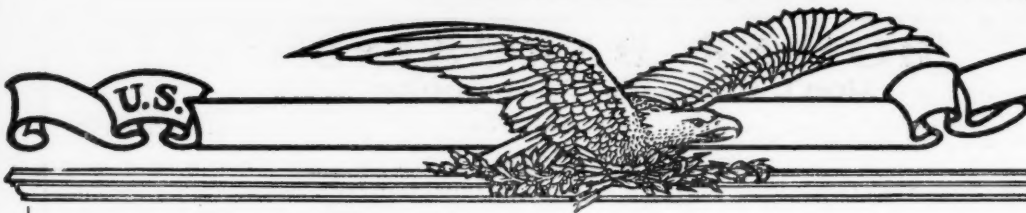
## INDUSTRIAL EQUIPMENT

The following equipment is brand new, never having been removed from original case, and is offered at Bargain Prices:—

- 3—Winton 200 H.P. Fuel Diesel Type Engines.
- 3—Westinghouse 200 K.V.A. Generators, 3 phase, 60 cycle, 2400 volts, 257 R.P.M.
- 1—Complete Switchboard for 3-200 K.V.A. Generators mentioned above.
- 1—Winton 200 H.P. Fuel Diesel Type Engine.
- 1—Westinghouse 135 K.W. Generator 125 volt D.C.
- 1—Complete Switchboard for 1-135 K.W. 125 volt generator
- 1—15 H.P. Mianus 2-cylinder improved Diesel Oil Engine direct connected to General Electric Co. 125 volt, 12 K.W. compound wound, Form A, Type RC-32, Amp. 96, Speed 550, Generator suitable for operating the following:—
- 1—18" Carbon Arc Type Black Finish Searchlight.
- 1—Denver Siren.

**THE HUBBARD-FLOYD CO., INC**

1112 GRAND CENTRAL PALACE New York City



# Marks are

At  
**New Cumberland, Pa.**  
**DECEMBER 8.**

Harness, all kinds  
Apajeros, cargo  
Bags, saddle, grain, feed  
Bits, bridoon, curb, rein  
Saddle Blankets  
Horse Covers  
Bridles & Collars  
Currycombs & Brushes  
Halters & Ties  
Traces & Straps  
Saddles, various

At  
**Columbus, Ohio**  
**DECEMBER 12.**

Motors, 5 to 50 h.p.  
Lamp Shades, metallic  
Transformers, G. E. & Mahoney  
Terry Steam Turbine, 140 h.p.  
Controllers, 220 volts  
Boiler Tubes, 4" test 1000 lbs.  
Steel, bar, strip, sheet, cold & hot rolled  
Grinding Wheels, various  
Rivets, asstd.  
Feed Bags, new  
Jersey Gloves  
Haversacks, various  
Mittens, 1-finger lea.  
Bees Wax & Clarified  
Shoemaker's Thread, asstd.  
Lasts, various  
Table Cutlery  
Stock Pots & Bake Pans  
Boiling Plates  
Razors, common  
Shovels, intrenching  
Cans, G. I., various

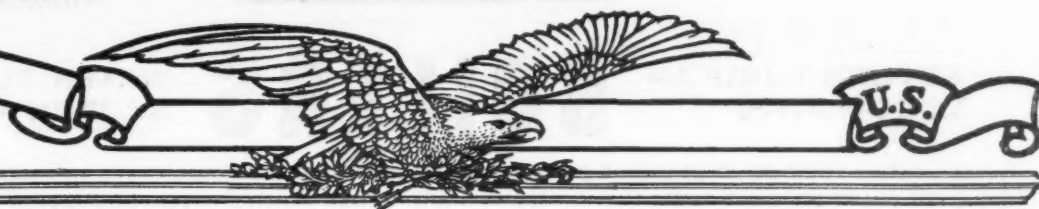
First Aid Packets  
Cartridge Boxes  
Hooks, asstd.  
Stovepipe & Joints  
Wagon Bow's & Bottoms  
Wood Feed Boxes  
Driver's Seats  
Wagon Sides & Tongues  
Wheels, front & hind  
Harness Components  
Collars  
Halters

At  
**Philadelphia, Pa.**  
**DECEMBER 15.**

Duck, various shades & wgt.  
Sheared Tin, 22 gauge  
Rope, all kinds  
Buckets, G. I., w/covers  
Gauntlet Gloves  
Bobbinette, grey, 48 to 72"  
Unbleached Braid  
Convalescent Cloth, grey  
Cap Cloth, O. D.  
Puttee Cloth, O. D.  
Melton, O. D., 8 to 28 oz.  
Shirting, cot. & flan., O. D.  
Thread, asstd.  
Cutting Steels, all kinds  
National Cash Registers  
Canned Peas  
Peaches  
Pineapple  
Apricots  
Cherries  
Asparagus  
Raspberries  
Dental Cream  
Cigars  
Shoe Polish



# WAR DEPA



# Easy Money

*When you use them in such cases as these*

SOMEWHERE in these lists you are going to come upon a familiar word. Mark it! Use a red, black, blue or green pencil—but mark that word, and mark it so it sticks out like a lighthouse! That word is the name of something you use in your business, and behind it stands a vast quantity of goods that can be purchased at a vast saving in these three War Department auctions.

Careful search through these lists will reveal many such words—each and every one packed full of profit opportunities for you. Mark them all! Take as much time as you need to comb the lists thoroughly! The busier you are, the more it will pay you to miss not a single item.

Other commodities, in profusion, are shown in the catalogs. Perhaps many would interest you as much as those listed here. Request to the Quartermaster Supply Officer, 1st. Ave. & 59th. St., Brooklyn, N. Y., will bring the New Cumberland and Philadelphia auction catalogs promptly. The Quartermaster Supply Officer, 1819 W. Pershing Rd., Chicago, Ill., will be equally glad to send you a catalog of the Columbus auction. The Government reserves the right to reject any or all bids.

# ARTMENT



**RETURN TUBULAR  
LOCOMOTIVE****BOILERS****WATER TUBE  
SCOTCH MARINE**

A LARGE STOCK OF HIGH-GRADE BOILERS OF PRACTICALLY ALL SIZES, TYPES AND MAKES, TAKEN OVER FROM DU PONT CHEMICAL COMPANY'S AND OTHER PLANTS WITH PRODUCTION RECORDS—RECONDITIONED, OFFERED SUBJECT TO ANY INSPECTION, AVAILABLE NOW!

"SAVE TIME AND MONEY ON YOUR POWER INSTALLATION—LET DAVIS FURNISH THE BOILERS"

LONG DISTANCE  
TELEPHONE  
CENTRAL 1494

**J. F. DAVIS**

122-1123-1124  
HARRIS TRUST BUILDING  
CHICAGO, ILL.

**FOR SALE or RENT**

BOILERS	ALMOST
HOISTING ENGINES	EVERY
STATIONARY ENGINES	SIZE
CENTRIFUGAL PUMPS	AND
STEAM PUMPS	FOR
AIR COMPRESSORS	EVERY
	DUTY

**LOUIS A. TARR, Inc.,**  
N. W. Cor. Sharp and Conway Streets  
BALTIMORE, MD.

**FOR SALE**

1—500 H.P. Chandler & Taylor Twin Engine.  
1—250 H.P. Erie City Engine.  
1—150 H.P. Hanover Engine.  
1—No. 6 Mitts & Merrill Hog.  
1—42x48" Jeffrey Bark Shredder.  
1—No. 5 Williams Bark Shredder.  
1—No. 3 Williams Bark Shredder.  
1—No. 2XX Williams Bark Shredder.  
1—20 K.W. Westinghouse Generator.  
1—Forbes Pipe Threading Machine 2½ to 6".  
1—Quadruple Effect Copper Vacuum Pan.  
1—Triple Effect Copper Vacuum Pan.  
1—Single Effect Copper Vacuum Pan.  
Cypress Tanks 14x14' and 12x12'.  
1—No. 90 American Blower Co. 54" Steel Encased Fan.  
60—3" Brass Tees Straight and reducing.  
12—Reliance Safety Water Columns.  
12—3½" Scott Pop Valves.  
Water, Condensation and Vacuum Pumps.  
Bronze Liquor Pumps.

**CHARLESTON EXTRACT CO.**  
CHARLESTON, W. VA.

**WOOD WORKING  
MACHINERY**

Band Saw, 36" Fay & Egan No. 50 Special.  
Boring Machine, single spindle, horizontal Fay & Egan.  
Glue Spreader 38" double roll, Francis.  
Jig Saw, self contained, Colladay.  
Jointers 20" Porter type C., round head.  
Jointers 20" Crescent, round head.  
Jointers 16" L. Power & Co. round head.  
Jointer 12" L. Power & Co. round head.  
Lathe, Waymoth No. 1 Variety.  
Lathe, handle, No. 1 Ober.  
Matcher, box board, power feed, S. A. Woods.  
Moulder 7" four side, L. Power & Co.  
Mortisers, vertical plunger, American and Levi Hous-  
ton.  
Planer 26x12" double, endless bed L. Power & Co.  
Planer 32x7" single, L. Power & Co.  
Planer 26x6" single Egan.  
Planer 24x6" single, L. Power & Co.  
Sander 42" triple drum, Royal "Invincible".  
Sander, Moulding No. 1 Pioneer.  
Self-feed Band Rip Saw No. 180 Fay & Egan.  
Self-feed Band Rip Saw No. 202 Fay & Egan.  
Self-feed circular Rip Saw, L. Power & Co.  
Saw table, carriage cut-off No. 198 Fay & Egan.  
Saw table, automatic cut-off, No. 343-A H. B. Smith.  
Saw table, Crescent No. 1.  
Saw table, Oliver Universal.  
Saw table, double cut-off No. 2 Beach.  
Saw table, wood top, John A. White.  
Shapers, double spindle, Berlin & American.  
Shapers, single spindle, advance & Shimer.  
Swing Saws, American & Sidney.  
Stair routing machine, no table.

**FRANK TOOMEY, Inc.**  
127-129-131 N. Third St.  
PHILADELPHIA, PA.

## What Part of This Equipment From the \$300,000,000 Fleet Can You Use?

**Boilers:** Watertube—250 to 750 H.P.  
**Chain Hoists:** 1 to 5 tons lift.  
**Wire Cable:** Flexible ½" to 2".  
**Hoisting Booms:** Oregon Pine, 42'x9½", tapered, with or without bands and pivot base.  
**Hoisting Engines:** Lidgerwood and other makes, 2 cylinder steam driven, capacity 3000 to 6000 lb.  
**Turbine Engines:** Steam 700—1400 H.P.  
**Masts:** Oregon Pine 92'x18" for about 70', then tapered to 9½".  
**Pumps:** Engine driven centrifugals up to 14" discharge. Air and Water Duplex and simplex in large variety of sizes.  
**Gin Poles:** Oregon Pine, 27' long, 6½" at center tapered to 5½".  
**Valves and Fittings** in cast iron and brass up to 10".  
**Refrigerating Sets**—one ton steam driven.  
**Electric Generators:** 10 KW, engine driven with switchboard, 125 Volts D.C.  
**Feed Water Heaters, Evaporators, Injectors, Surface Condensers, Small Boats, Chronometers, Hotel Ranges and thousands of other items.**  
All in the finest condition being removed from the 305 wooden steamships we recently purchased from the U. S. Shipping Board. Some of the ships never went overseas. Prices are so low they will surprise you.

**Western Marine & Salvage Company**  
901 S. Lee Street  
ALEXANDRIA, VIRGINIA

# THE RANDLE MACHINERY COMPANY

1734 POWERS STREET Established 36 years CINCINNATI, OHIO

## A. C. GENERATORS.

Belted and Direct Connected.

- 1-5000 kw. General Electric Vertical, 3 phase, 60 cycle, 4500 volts. Turbo Generator Set, with Condenser and accessories.
- 1-1200 K.W. General Electric, 3 phase, 60 cycle, 250 volt Generator, direct connected to Filer & Stowell, Corliss Engine.
- 1-400 K.W. General Electric, 3 phase, 60 cycle, 250 volt Generator, direct connected to an 18 x 42 x 36 Filer & Stowell Corliss Engine.
- 1-500 K.W. Westinghouse, 3 phase, 60 cycle, 2300 volt Generator, direct connected to a 28x42 Hamilton Corliss Engine.
- 1-350 K.W. Westinghouse, 3 phase, 60 cycle, 220 volt Generator, direct connected to a 28 x 42 Murray Corliss Engine.
- 1-300 kw. General Electric, 3 phase, 60 cycle, 2300 volt Turbo Generator Set, Condensing.
- 1-250 K.W. Westinghouse, 3-phase, 60-cycle, 220-volt alternator, direct connected to a 22 x 42 Murray heavy duty Corliss engine.
- 1-250 K.V.A. Allis-Chalmers, 3 phase, 60 cycle, 2300 volts, 600 R.P.M. belted type Alternator.
- 2-200 K.W. each, DeLaval-Bullock, 3 phase, 60 cycle, 220-440 volts Turbo Generator Set, with condensers and accessories.
- 1-125 K.V.A. Ft. Wayne, 3 phase, 60 cycle, 1150-2300 volts Generator, direct connected to a 15 x 16 Erie-Ball Automatic Engine, with accessories.
- 1-100 kw. General Electric, 3 phase, 60 cycle, 220 volt, 3600 R.P.M., Turbo Generator Set with Condenser and accessories.
- 1-42 1/2 K.W. Lincoln, 3 phase, 60 cycle, 480 volt Generator, direct connected to an 11 x 12 Chandler & Taylor Automatic Engine.

## D. C. GENERATORS.

Belted and Direct Connected.

- 1-510-K.W. Crocker-Wheeler, 300 volt, compound wound, Generator, direct connected to a 19 x 40 x 36 McIntosh & Seymour Engine.
- 1-300-K.W. Triumph, 250-volts, compound wound generator, direct connected to a 15 x 25 x 30 Hamilton cross compound Corliss engine.
- 1-250 K.W. Triumph, 125 volts, Generator, direct connected to a 22 x 20 Skinner Automatic Engine. (Can be remount for 250 volts.)
- 1-150 K.W. Westinghouse, 275 volts, 290 R.P.M. Generators, each direct connected to an 18 x 19 Fleming-Harrisburg Automatic Engine.
- 1-125-K.W. Fort Wayne, 230-volts, compound wound generator, direct connected to a 17 x 16 Skinner automatic engine.

- 1-100 K.W. Triumph, 125 volt, 675 R.P.M., compound wound, belted type Generator.
- 1-75 K.W. Ft. Wayne, 250 volts, compound wound, Generator, direct connected to a Skinner Automatic Engine.
- 1-35 1/2 K.W. Western Electric, 250-volts compound wound generator, direct connected to a 9 x 12 Skinner engine.
- 1-35 K.W. Triumph, 125 volt, compound wound, Generator, direct connected to a 9x12 Skinner Automatic Engine.
- 1-25 1/2 K.W. Allis-Chalmers, 120 volt, 187.5 amps, 925 R.P.M., compound wound, belted type Generator.
- 1-20 K.W. Western Electric, 1250 R.P.M., 120 volt, compound wound, belted type Generator.
- 1-17 1/2 K.W. Triumph, 125 volt, 140 amperes, 250 R.P.M., compound wound, belted type Generator.

## BOILERS

- 6-1040 H.P. Edgemore, ASME Code, 200 lb. pressure
- 8-520 H.P. Stirling, 175 lb. pressure
- 3-250 H.P. Franklin Heine type, 150-lb. pressure.
- 3-207 H.P. Geary, Heine type, 175 lb. pressure.
- 2-175 H.P. Atlas, 150-lb. pressure.
- 1-175 H.P. 72x15, high pressure, H. R. T.
- 4-150 H.P. 72x15 high pressure H. R. T.
- 5-125 H.P. 72x16 high pressure H. R. T.
- 2-100 H.P. 66x16 high pressure H. R. T.
- 2-100 H.P. 66x16, Standard, H. R. T.
- 1-60 H.P. 66x16 high pressure H. R. T.
- 1-60 H.P. 54x14 high pressure H. R. T.
- 1-50 H.P. 48x120, high pressure, Vertical.
- 1-75 H.P. High pressure Fire Box
- 1-40 H.P. High pressure Fire Box
- 2-25 H.P. 42x95, new Vertical, 125 lb. pressure.
- 1-15 H.P. 36x83 new Vertical, 100-lb. pressure.
- 1-10 H.P. 30x83 new Vertical, 100-lb. pressure.

## STEAM ENGINES

- 1-26x48 Viller left hand Corliss engine.
- 1-17x34 x 48 Hamilton, Cross Compound, heavy duty, Corliss, designed for rope drive.
- 1-22x42 Hamilton heavy duty Corliss.
- 1-22x42 Allis heavy duty Corliss.
- 3-18x36 Allis-Chalmers heavy duty Corliss.
- 1-16x16 Lane & Bodley Slide Valve.
- 1-14x18 Erie City Iron Works Automatic.
- 1-13x16 Erie City Iron Works Automatic.
- 1-13x16 Chandler & Taylor Slide Valve.
- 2-10x12 Valler Iron Works Automatic.
- 1-10x12 Chandler & Taylor Slide Valve.
- 1-9x12 Skinner Automatic.

Also many other sizes.

- ## MOTOR GENERATOR SETS
- 2-500 K.W. Westinghouse, 250 volt, D. C. 720-hp, 3 phase, 60 cycle, 2300 volts, Synchronous Motor Generator Sets.

## ROTARY CONVERTERS

- 2-200 K.W. Westinghouse, 250 volts, D. C., 3 phase, 60 cycle, Rotary Converters.

## A. C. MOTORS

No.	H.P.	Make.	Volts.	R.P.M.
3	Phase, 60 Cycle.	Squirrel Cage and Slip Ring.		
12	7 1/2 New	General Electric	220	1800
6	10 New	General Electric	220	1200
2	15 New	Fairbanks-Morse	440	1750
5	15 New	General Electric	220	1200
1	20 Used	Fairbanks-Morse	220	1200
5	20 New	General Electric	220	1200
5	25 New	General Electric	220	1200
1	25 New	G. E. (Slip Ring)	220	1200
3	30 New	General Electric	220	1200
4	40 New	General Electric	220	1200
4	50 New	General Electric	220	900
1	50 Rebuilt	General Electric	220	900
2	50 New	G. E. (Slip Ring)	440	900
3	75 New	G. E. (Slip Ring)	220	900
3	100 New	G. E. (Slip Ring)	220	900
1	100 Rebuilt	Westinghouse	220	1200
2	150 New	G. E. (Slip Ring)	440	720
1	200 Used	General Electric	2200	514
1	250 New	Allis-Chalmers		
1	275 Used	G. E. (Slip Ring)	2200	514
1	900 New	G. E. Synchronous	550	720

Also many other sizes and types.  
Any of the above 220 volts motors can be furnished for 440 volts, or vice versa.

## D. C. MOTORS

No.	H.P.	Make	Volts	R.P.M.
1	50 Rebuilt	Allis-Chalmers	250	800
1	40 Rebuilt	Jants & Leist	250	800
3	30 Used	Jants & Leist	250	600
1	20 Rebuilt	Triumph	250	965
1	15 Rebuilt	Minneapolis	110	350
1	12 1/2 Rebuilt	Minneapolis	220	950
1	7 1/2 Rebuilt	Jants & Leist	220	800
2	5 Rebuilt	Triumph	220	1350
1	5 Rebuilt	Jants & Leist	220	800
2	4 Rebuilt	Triumph	110	1025

Also many other sizes and types

**OUR SHOPS AND EXPERIENCE ARE AT YOUR SERVICE**

## A. C. MOTORS

Immediate Delivery. Large Stock,  
Three Phase and Single Phase, Sizes 1/2 to 50 H. P  
Send us Your Inquiries Before You Buy

**SEEGER MACHINE TOOL COMPANY**  
Machinery and Supplies

84 S. FORSYTH ST. ATLANTA, GA.

## FOR SALE

The following equipment located in the North Western part of N. C.  
Hargrave Mill size 8' x 22" steel lined.  
Double section Hummer Screen with generator and rheostat.  
Single surface NE-WA-Go screen.  
Buchanan Rolls 24" x 14" Type B without shells.  
Erie City Steam engine 60 H.P. For Particulars write.

KARL H. BEHR  
63 WALL STREET NEW YORK, N. Y.

## MACHINERY—FOR SALE

### ELECTRICAL

DYNAMOS, MOTORS AND GENERATING UNITS.

### POWER PLANT

BOILERS, ENGINES, PUMPS AND AIR COMPRESSORS.

### METAL WORKING

MACHINE TOOLS, PRESSES, LATHES, PLANERS, MILLING MACHINERY, Etc.

LARGE STOCK OF NEW AND USED  
EQUIPMENT ON HAND AT ALL TIMES

**THE O'BRIEN MACHINERY Co.**  
113 N. Third St., Philadelphia, Pa.

Long-Distance Bell Telephone: Market 0727  
Cable Address: O'Brien, Philadelphia

## DRYERS CRUSHERS — GRINDERS — PULVERIZERS

For All Purposes  
PLANTS DESIGNED AND EQUIPPED

**W. P. HEINEKEN**

Engineer and Manufacturer

95 Liberty Street New York

## ELECTRIC MOTORS

Generators & Motor Generator Sets  
Steam Engine and Turbine Sets

(We buy and sell good used equipment)

**J. L. HEMPHILL & CO., INC.**  
1118-1120 Clinton Street Hoboken, N. J.

ESTABLISHED 1838

INCORPORATED 1907

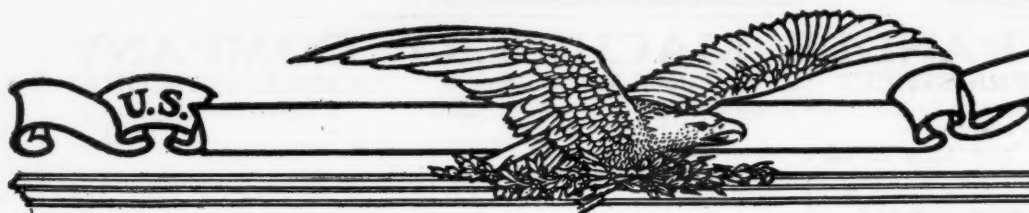
## GEO. F. MOTTER'S SONS

Steam and Electrical  
Engineers

YORK, PA.

Boilers, Engines,  
Tanks, Stacks,  
Heating Contractors,  
Machinery Supplies,  
Steam Power Plant  
Equipment,  
Machine Repairs

Motors, Generators,  
Power Equipment,  
Factory Supplies,  
Re-winding,  
Construction  
and Repairing



# Make this modern plant

## Terms of Sale——

Down-payment of 5 per cent.

Additional cash payment of 15 per cent when sale contract is executed.

Balance may be paid in equal annual or semi-annual installments, with interest at 5 per cent per annum, *within eight years* from date of sale.

Deed to be delivered by the Government when purchase price and interest are paid in full.

All payments cash, or certified check.

Possession given upon execution of sale contract, which shall be within one week after acceptance of bid.

Property to be sold "as is" and "where is".

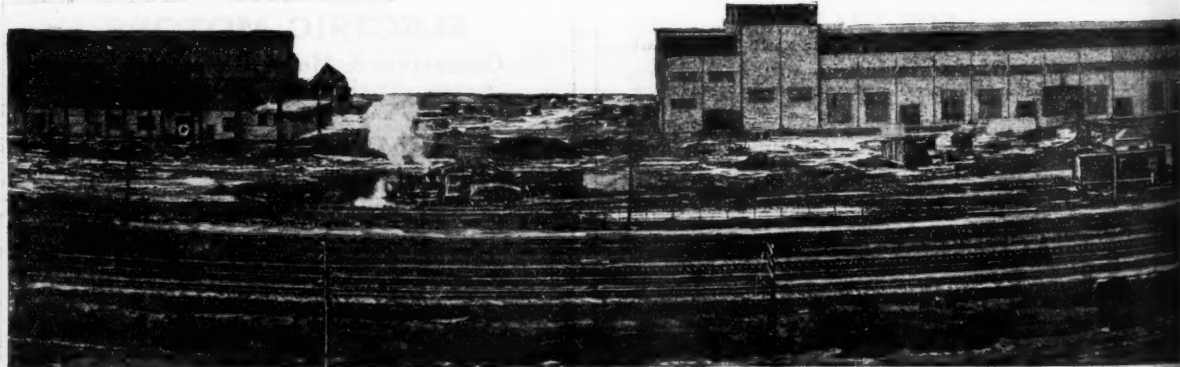
The Government reserves the right to reject any or all bids.

### Send for Illustrated Booklet!

ADDRESS: Chief, Construction Service,  
Quartermaster General's Office,  
3335 Munitions Bldg., Washington, D. C.

or

Gerth's Realty Experts, Auctioneers,  
101 W. 42nd St., New York City



# WAR DEPA





# your Industrial Home!

(The Government will finance 80 per cent of the purchase price)

**O**N December 7, at 2:30 p.m., the War Department will offer at auction all the land and buildings comprising the Symington Gun Plant.

The auction will take place on the premises of the plant, 7400 South Ashland Ave., Chicago, Ill.

The real estate comprises 47.4 acres located between 73rd and 74th streets on the north; the Chicago Belt Line Ry. on the south; S. Ashland Ave. on the east, and the P. C. C. & St. L. Ry. on the west.

The improvements are as follows:

**Forge Shop**, steel and brick; sand and gravel roof; steel sash; 425 ft. x 375 ft.; contains seven 10-ton, and two 25-ton cranes.

**Cooling Room**, steel and brick; 240 ft. x 275 ft.; contains three 10-ton cranes.

**Machine Shop**, steel and brick; 1222 ft. x 250 ft.; contains two 5000-gal. tanks, suitable for gasoline, equipped with pumps.

**Building "O"**, steel and tile; 433 ft. x 151 ft.; contains three 20-ton cranes.

**Building "P"**, steel and brick; 380 ft. x 169 ft.; contains one 10-ton crane.

**Power Plant Bldg.**, steel and brick; 302 ft. x 55 ft.; contains four 150-h.p. boilers with smokeless furnaces, connected to 175-ft. brick stack.

**Office Building**, brick; 60 ft. x 215 ft.; three floors.

**Water Tank Tower**, with two tanks; one, 24 ft. x 36 ft. the other 18 ft. x 12 ft.

**Storage Tanks**, concrete; sunken; capacity of each, 1,000,000 gals, fuel oil.

**Railroad Track**, approximately 21,347 ft.; serves all buildings and connects with Belt Line railway; also 200,000-lb. track scale.

Plant will be offered for sale as an entirety, and also as two parcels, separated by S. Robey street, which runs north and south through the property.



# DEPARTMENT

# MACHINERY and SUPPLIES

IMMEDIATE DELIVERY:

## BOILERS

- 1—D. & W., 294 H.P. Water Tube; 150 lbs. pres.
- 1—Erie City, 250 H.P. Water Tube; 150 lbs. pres.
- 14—72" x 18" Horizontal Tubular; 125 lbs. pressure.
- 2—66" x 20" Horizontal Tubular; 115 lbs. pressure.
- 1—72" x 16" Horizontal Tubular; 115 lbs. pressure.
- 1—100 H.P. Locomotive Fire Box; 100 lbs. pressure.
- 1—50 H.P. Locomotive Fire Box; 90 lbs. pressure.
- 1—50 H.P. Internally Fired; 90 lbs. pressure.
- 1—30 Vertical; 110 lbs. pressure.
- 1—20 H.P. Vertical; 100 lbs. pressure.

## ENGINES

- 1—28" x 48" Hamilton Right Hand Corliss.
- 1—20" x 42" Ohio Right Hand Corliss.
- 1—18" x 42" Allis Right Hand Corliss.
- 1—12" x 24" Buckeye Left Hand.
- 1—12" x 24" Douglas Plain Slide Valve.
- 1—10" x 12" Chandler Taylor Plain Slide Valve.
- 1—9" x 10" Armstrong & Simms Automatic.

## PUMPS

- 1—16" x 8 1/2" x 12" Duplex Steam.
- 1—14" x 10 1/2" x 10" Duplex Steam.
- 1—12" x 7" x 10" Duplex Steam.
- 1—10" x 6" x 10" Duplex Steam.
- 3—6" x 4" x 6" Duplex Steam.
- 4—5 1/2" x 3 1/2" x 5" Duplex Steam.
- 2—4 1/2" x 2 1/2" x 4" Duplex Steam.
- 1—8" x 8" Deane Triplex Single Acting Power Pump.
- 1—Kingsford Horizontal Centrifugal Water Pump, 24" suction, 24" discharge.
- 1—Platte Iron Works Horizontal Centrifugal Water pump, 14" suction, 12" discharge.
- 1—Fulton Horizontal Centrifugal Water Pump, 12" suction, 10" discharge.

## AIR COMPRESSORS

- 1—Sullivan Straight Line Air Compressor, 24" steam cylinder, 20" low pressure air cylinder, 18 1/2" high pressure air cylinder, 30" stroke, capacity 1850 cu. ft. per minute.
- 1—Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 18", capacity 1750 cu. ft.
- 1—Chicago Pneumatic Single Stage Steam Driven Compressor, two cylinders, size 22" x 16"; capacity 1700 cu. ft.
- 1—Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 18"; capacity 750 cu. ft.
- 1—Ingersoll-Sergeant High Pressure Steam Driven Air Compressor, two stage, low pressure cylinder 18" x 15", high pressure cylinder 12" x 12"; capacity 900 cu. ft.
- 1—Clayton Duplex Steam Driven Air Compressor, duplex steam and two stage air cylinders, dial steam cylinder 10", low pressure air cylinder 18 1/2", high pressure air cylinder 10", stroke 10"; capacity 425 cu. ft.
- 1—Chicago Pneumatic Fuel Oil Driven Compressor, capacity 300 cu. ft., 100 lbs. pressure.
- 12—New York Air Brake Co. Locomotive Type Two Stage Air Compressors, 10" low pressure cylinder, 8" high pressure cylinder, 8" stroke, 7" steam cylinders.

## TANKS

- 25—30,000 Gal. Vertical, Storage.
- 28—10,000 " horizontal, storage.
- 15—5,500 " " " "
- 10—3,000 " " " "
- 25—1,800 " " " "
- 25—500 " ver. or horizontal storage.
- 30—Complete Underground Gasoline Storage Tanks, consisting of 160 gal. galv. tank, 14 gauge material, bearing Underwriters' label, with hand pump, also pipe and fittings complete.
- 25—Complete Underground Gasoline Storage Tanks, consisting of 200 gal. steel tank, 3/16 in. material, with hand pump, also pipe and fittings complete.
- 25—23" in. by 54 in., 150 lbs. pressure.
- 10—20 in. by 8 1/2 ft. to 9 1/2 ft., 150 lbs. pres.
- 10—16 in. by 42 in., 150 lbs. pressure.

Send for a free copy of Bulletin No. 285 describing our complete Stocks of Machinery and Equipment.

**HARRIS BROTHERS CO.**  
35th & Iron Sts., Chicago, Ill.

# PIPE NEW PIPE

Owing to the present shortage of pipe we are pleased to advise that we have just purchased from the Government 1800 tons of Black and Galvanized new random length pipe from 2" to 12" which we can offer at attractive prices for immediate shipment.

To those who can use 3 1/4" Black or Galvanized Pipe please be advised that we can give a very substantial discount on same. Will ship plain end, flanged or screwed.

## COMMONWEALTH PIPE & SUPPLY COMPANY

98-104 Merrimac St.  
BOSTON, MASS.

One Gas Power Generating Outfit consisting of R.D. Wood Gas Producer, Westinghouse vertical Producer Gas Engine and 150 K.W. 125-250 V. Westinghouse D.C. Generator. Detail specification and price on application. Immediate delivery.

THOMAS DEVLIN MFG. CO.  
Third and Lehigh Ave. Philadelphia, Pa.

## FOR SALE

250 volt D.C. MOTORS LIKE NEW at sacrifice prices.—  
We are overstocked and closing these out—Low PRICES for immediate sale.—

**GREGORY & SONS**  
ELECTRICAL CO.  
CHICAGO, ILL.

Send For Monthly  
Bargain Sheet

16th & Lincoln St., Chicago Ill.

## NEW - EQUIPMENT - BARGAINS

### KERR TURBINE ENGINES

2500 H.P. 3600 RPM  
2650 H.P. 3600 RPM  
3000 H.P. 3600 RPM

### TURBINE STEAM PUMPS

20 H.P. Non-condensing 3600 RPM  
5 H.P. Direct Connected 2500 RPM

### BOILERS

25 H.P. Vertical  
80 H.P. Locomotive A.S.M.E.  
80 H.P. Return Tubular A.S.M.E.  
125 H.P. Return Tubular A.S.M.E.

### PUMPS

10x12x12 Worthington Horizontal Duplex  
7x8x10 Deane Vertical Duplex  
10x6x18 National Transit Vertical Simplex  
No. 7 Single Cylinder Double action Force

### MISCELLANEOUS

100-Ton Hydraulic Bending & Straightening Press  
Angle Bending Machine  
Channel & Angle Flanging Machine  
Lysholm Tables  
Buckeye Oil Rivet Forges  
Buffalo Blacksmith Forges  
Roebbling Patent Sling  
Hisey Grinders—3 H.P. Motors—3  
Phase—60 Cycle—440 Volts—Second-hand.

**POTTSTOWN STEEL COMPANY**  
DOUGLASSVILLE, PA.

# Pipe for Sale

Large Stock, All Sizes  
Threaded and Coupled  
Mill Lengths  
Pipe Cut to Sketch

**Albert & Davidson Pipe Corp.**

260 Oakland Street  
Brooklyn, N. Y.

## IRON AND STEEL PIPE

Large quantity Pipe, with threads and couplings, used in Government plant a short time.

Rods—100 tons 7/8" Round  
Rods, 14' to 22' lengths.

**Central Pipe & Supply Co.**

Box 1099  
CHARLESTON, W. VA.

## PIPE PIPE PIPE FOR SALE

15 miles 8" 28 pound line pipe 60c. foot; 5 miles 6" line pipe 40c. foot; 300,000 feet 1" pipe 4c. foot; all f.o.b. cars Beaumont, Texas.

**BROOKS SUPPLY COMPANY**  
Beaumont, Texas

## HOT WATER METER FOR SALE

1 Hersey hot water meter with 4" connections flanged type.

**WEST PENN POWER COMPANY**  
P. O. Box 1223 PITTSBURGH, PA.

## SPRINKLER SYSTEM

A Complete Fire Protection Equipment  
Must be quickly removed from plant closed down last week at Kress, Va.

### Unit "A"

A complete Sprinkler System installed by International Sprinkler Co., Atlanta, Ga. Includes all Pipe, Fittings, Fixtures, Sprinkler Heads, etc. for two floors of building 110 ft. long, 80 ft. wide. Also 300 ft. 2 1/2" Fire Hose, Yard Hydrant, 200 ft. 6" C. I. Pipe, Nozzles, etc., to make up more than adequate fire fighting equipment for this size plant.

### Unit "B"

1—20,000 Gal. Cypress Tank.  
1—60 ft. Structural Steel Tower Built by Flint & Walling, Kendallville, Ind.

### Unit "C"

1—14x7 1/2 x 12" Underwriters Fire Pump Capacity 500 gal. per min.; with one automatic valve and 4—6" Cut-off valves. Manufactured by C. H. Wheeler Mfg. Co.  
Special Price as a Whole—or low individual prices for Unit "A", "B" or "C".  
The entire equipment absolutely A-1 without defects and in strict accord with Underwriters regulations.

Phone—Wire—Write  
**WAYNE MACHINERY CO.**  
FT. WAYNE, IND.

# BLACK AND GALVANIZED STEEL PIPE

## IMMEDIATE DELIVERY FROM STOCK

BLACK PIPE  $\frac{1}{4}$ " to 20"GALV. PIPE  $\frac{1}{4}$ " to 8"

Cast Iron Bell and Spigot Fittings, Valves and Hydrants

Cast Iron, Malleable and Brass Screwed Fittings

Cast Iron and Steel Flanged Fittings and Valves

Brass Valves

Cast Iron and Forged Steel Flanges

Steam Specialties

25th &amp; Morris Sts.

**Chas. J. Grant Supply Co.** Philadelphia Pa.**FOR SALE****PIPE SECOND HAND All Sizes  $\frac{1}{8}$ " to 24"**

Furnished with new threads and couplings, suitable for every practical purpose.  
Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

**MARINE METAL & SUPPLY CO.**

167 South Street

NEW YORK

**PIPE****ALL SIZES SECOND-HAND****FOR ALL PURPOSES****FRANK GRIFFITH**

412-442 Moyer Street,

Philadelphia, Pa.

Pipe, all sizes, bought and sold. What sizes are you in the market for? What sizes have you for sale?

**PIPE & CONTRACTORS' SUPPLY CO.**

3 Dover Street

NEW YORK

1—42" and 54" J. A. Fay Band Rip Saw. 1—34" Gilbert band Resaw.  
1—Olen Core 8" 4-side Matcher. 1—Prelie 10" 4-side Matcher.  
1—J. B. Hoyt 14" 4-side Matcher. 1—24" 3-drum Berlin Sander.  
1—30" 2-drum Fay. 1—26 x 12 Double Surfact. endless bed spe.  
1—48" Circular Resaw—power feed. 1—30" Circular Resaw—power feed.  
**MOULDERS**  
1—7" 3-side Houston. 1—7" 4-side Fay.  
1—9" 4-side Williamsport. 1—7" 4-side Hamilton.  
Boilers, Hoists, Pumps, Engines, Ironwork, Machinery, Belting, Shafting, Pulleys, Hangers.

**THE CLEVELAND BELTING & MACHINERY CO.**  
1524 University Road CLEVELAND, OHIO

**FOR SALE****[ PUMPING UNIT, CONDENSER, SUPERHEATER, ETC.**

One pumping unit made up of two slow speed 6" double suction pumps, capacity of each pump 825 GPM; pumps direct connected to 8x8 Troy fully enclosed, self-oiling, throttling engine located on one base plate between the two pumps. Pumps are designed to work against a 35' head and to run 360 RPM. Equipment manufactured by Lawrence Pump & Engine Co.; Lawrence, Mass.

One No. 34 Schutte & Koerting Multi-Jet Condenser, complete with fittings, tail pipe and release valve.

Necessary spray nozzles, gauges, valves, pipe and fittings for installation of No. 34 Schutte & Koerting Multi-Jet Condenser.

One Fig. 1405—12" Cochrane Multiport Horizontal Atmospheric Release Valve.

One direct fired Foster Superheater, will raise the temperature of 3500 pounds steam per hour at a working pressure of 100 pounds to 600 degrees Fahrenheit, final temperature, corresponding to a superheat of 263 degrees.

Address: Supply Department

SOUTHLAND COTTON OIL CO.,

Paris, Texas

**PIPE - VALVES - FITTINGS**

Have just purchased from the Government the following Black and Galvanized Pipe (NEW).

17,000 ft. 1 $\frac{1}{2}$ " : 33,000 ft. 2" : 64,000 ft. 2 $\frac{1}{2}$ " : 49,000 ft. 3" : 85,000 ft. 3 $\frac{1}{2}$ " : 90,000 ft. 4" : 10,000 ft. 4 $\frac{1}{2}$ " : 11,000 ft. 5" : 12,000 ft. 6" : 19,000 ft. 7" : 20,000 ft. 8" : 5,000 ft. 9" : 10,000 ft. 10" : 12,000 ft. 12"

Can furnish random lengths or cut to sketch. Price low for immediate shipment.

WE ALSO HAVE 4,000 tons of Flanged and Screwed Fittings and Valves from  $\frac{1}{4}$ " to 26", and invite your inquiries covering same.

**HANOVER SALES COMPANY**

P. O. Box 856

Philadelphia, Pa.

**TANKS****IMMEDIATE SHIPMENT**

20" dia x 4' 1 $\frac{1}{2}$ " long	65 Gal.	120" dia x 14' 5" long	8500 Gal.
27" dia x 4' 1 $\frac{1}{2}$ " long	120 Gal.	120" dia x 16' 11" long	10000 Gal.
32" dia x 4' 1 $\frac{1}{2}$ " long	290 Gal.	120" dia x 20' 3" long	12000 Gal.
32" dia x 5' 1 $\frac{1}{2}$ " long	550 Gal.	120" dia x 25' 3" long	15000 Gal.
58" dia x 6' 0" long	800 Gal.	120" dia x 31' 1" long	12000 Gal.
58" dia x 7' 6 $\frac{1}{2}$ " long	1000 Gal.	120" dia x 33' 7" long	20000 Gal.
65" dia x 5' 11 $\frac{1}{2}$ " long	1000 Gal.	120" dia x 39' 5" long	23500 Gal.
64" dia x 9' 1 $\frac{1}{2}$ " long	1500 Gal.	120" dia x 41' 11" long	25000 Gal.
68" dia x 10' 8 $\frac{1}{2}$ " long	2000 Gal.	96" dia x 16' 3" long	6000 Gal.
68" dia x 15' 11 $\frac{1}{2}$ " long	3000 Gal.	96" dia x 24' 3" long	9000 Gal.
78" dia x 16' 3 $\frac{1}{2}$ " long	4000 Gal.	96" dia x 27' 0" long	10000 Gal.
84" dia x 17' 7 $\frac{1}{2}$ " long	5000 Gal.	96" dia x 32' 3" long	12000 Gal.
76" dia x 40' 0" long	9500 Gal.	96" dia x 40' 3" long	15000 Gal.
84" dia x 22' 8" long	9400 Gal.		

**SHARPSVILLE BOILER WORKS CO.**

SHARPSVILLE, PA.

**PUMPS**40 New Scranton Size 6 x 5 $\frac{3}{4}$  x 6

Price \$150 Each

**LATHES**

10—19 x 8 Le Blond double back geared,  
quick change, belt driven

Price \$500 Each

**MALLORY MACHINERY CORP.**

BALTIMORE, MD.



# HOISTS DERRICKS

## ELECTRIC HOIST AND DERRICK \$1600

PRICES F. O. B. CARS, HOG ISLAND, PA.

### You Save at Least \$2000

These Hoists and Derricks are standard late models, manufactured by The American Hoist & Derrick Co., St. Paul, Minn. They are almost new, and every one is GUARANTEED to be in first-class running order.

The Hoists have two drums and swingers, and are complete with Starting and Control Equipment. Either side or bank control, and rated 6000 pounds single line on each hoisting drum. Slewing rope 36 ft. per minute, and hoisting rope speed 160 ft. per minute. The MOTORS are Otis 37 H.P. A.C., 60 cycle, 3 phase, 440 volt, slip-ring induction type and, if desired, may be changed to suit the individual current requirements of purchasers at cost.

### DIMENSIONS OF DERRICKS

Mast.....16 in. square, 40 ft. high.  
Boom.....Made of (2) 14 in. sq. timber 45 ft. long spliced to lengths of 60 ft. with (2)  $\frac{1}{2}$  in. and (2)  $1\frac{1}{2}$  in. truss rods.  
Stiff Legs. 14 in. sq., 55 and 60 ft. long, or 16 in. sq. 50 ft. long, will furnish either length desired, capacity 5 to 10 tons. Bull wheel 16 ft. dia. Principal sheaves 16 in. dia. and 14 in. single blocks.  
The Cable which was formerly used will be given with each purchase of a Hoist and Derrick.

These Hoists and Derricks are assembled on the Grounds at Hog Island and may be inspected at any time. This Equipment is being sold complete and in units of a Hoist or Derrick if desired. Immediate shipment can be made anywhere, but QUICK ACTION IS IMPERATIVE.

Wire, Phone or Write for Detailed Information, Folder, Etc.

THE ELECTRIC HOIST &amp; DERRICK CO.

RECORDS BUILDING, HOG ISLAND, PA.

## CHANGE OF PRICE

On and after January 1st. 1923, the price of Hoist and Derrick will be \$1750.00, on account of expense in removal of this equipment from Hog Island to storage.

### HENRY A. KRIES & SONS CO.

Steam and Mill Supplies, Pipe Fittings, Complete Power Plant Equipment, Manufacturers and Machinists, Refrigerating Engineers and Contractors.

6 and 8 W. Lombard St., BALTIMORE, MD.

### USED EQUIPMENT FOR SALE IMMEDIATE DELIVERY

#### ROCK CRUSHERS

- 1—No. 5 Austin Gyratory Crusher, equipped with smooth manganese head and concaves. In excellent condition, together with 24 ft. elevator. Located at Gaffney, S. C.
- 1—No. 4 Aurora Jaw Rock Crusher, equipped with manganese dies, located at Spartanburg, S. C.
- 1—No. 4 Champion Jaw Rock Crusher, located at Spartanburg, S. C. In fair shape.

#### CONCRETE MIXERS

- 1—31 ft. belt driven Smith Mixer, with extra drum, located at Spartanburg, S. C. In good condition.
- 1—10 ft. direct connected to vertical steam engine, hand dump. In good running order. Located at Spartanburg, S. C.
- 1—10 ft. direct connected to vertical steam engine, hand dump. In good running order. Located at Spartanburg, S. C.
- 1—21 ft. (No. 17) Chicago Improved Cube Concrete Mixer, direct connected to steam engine, power dump. In fair shape. Located at Spartanburg, S. C.
- 1—No. 5 Anco 10 ft. Concrete Mixer, direct connected to 4 H.P. Novo Gasoline Engine. In good running order. Located at Spartanburg, S. C.
- 1—No. 5, 10 ft. "Little Wonder" Concrete Mixer, 4 H.P. Gasoline Engine, power loader. In good running order. Located at Spartanburg, S. C.

Also other equipment not listed

### WILLARD, BOGGS & CO.

Rex Theatre Bldg., SPARTANBURG, S. C.

### PUMPS

We have over a thousand pumps in sizes and types for every purpose. Many are new, and every unit fully guaranteed.

Send for our November list of the largest stock in the United States of slightly used and thoroughly overhauled MACHINE TOOLS, POWER, ELECTRICAL AND CONTRACTORS' EQUIPMENT.

WICKES MACHINERY CO.  
Jersey City, N. J.

Established 1900

### Your Products Exhibited

### in the BUILDERS' EXCHANGE

BALTIMORE, MD.

Will give you results in actual business. Exhibits on ground floor  
Write for information

Red and Buff Dry Pressed Brick,  
Common Building Brick

### GEORGIA-CAROLINA BRICK CO.

HOWARD H. STAFFORD, Pres.

AUGUSTA, GA.

### FOR SALE

One No. 18 Leyner-Ingersoll drill, complete with all fittings mounted. Machine has not drilled 100 ft. of hole. Too small for our work.

DIAMOND SLATE COMPANY, Inc.  
Pen Argyl, Pennsylvania

### COMPLETE MINERAL GRINDING EQUIPMENT FOR SALE

3—42" Emery Mills, 2-Jaw Crushers, 3-Bolting Reels, 1-Sturtevant Boiler Mill, 2-Steam Engines, 1-Boiler.

### CONSOLIDATED PRODUCTS COMPANY, Inc.

295 Oraton St., Newark, N. J.  
New York Office: 15 Park Row, N. Y. C.

### MACHINE TOOLS

#### Practically New

- 2—16" Cincinnati 3-Spindle High Speed Drill Presses
- 4—No. 1 U. S. Improved Hand Milling Machines, with Universal Attachments
- 4—No. 1 Burke Hand Milling Machines
- 1—No. 190 Wells Universal Cutter and Reamer Grinder.
- 5—No. 4 Brown & Sharpe Wire Feed Screw Machines
- 1—No. 2 Brown & Sharpe Automatic Screw Machine
- 2—No. 2-G Brown & Sharpe Automatic Screw Machines
- 1—Cataract Turret Tool Post Lathe
- 1—Lenz Centering Machine
- 4—Ames Bench Lathes
- 3—No. 3 Hardinge Bros. Bench Lathes
- 1—96" Revolving Table Grinding Machine
- 1—Chicago Dip Brazing Furnace
- 1—Chicago Rod End Forge
- 4—Small Pneumatic Punches

Some of the above tools in original crates

### MACHINERY & SUPPLY CORPORATION

Joplin, Missouri

# RAILROAD AND CONTRACTORS' EQUIPMENT

## CRANES

- 1—35 Ton McMyer Standard Gauge, 70' Boom, DD, 2 Weeks Delivery.
- 2—20 Ton Browning, 8 Wheel Standard Gauge, 40 and 50 ft. Booms, single Drum.
- 1—15-20 Ton Brown-Holst, 8 Wheel, Standard Gauge 42' boom, Double Drum.
- 1—12 Ton Osgood, Standard Gauge, 8 Wheel, 40' Boom.
- 1—15 Ton Bucyrus, 8 Wheel, Standard Gauge, 50' Boom, Double Drum.
- 2—15 Ton Industrials, 8 Wheel, Standard Gauge, 40 ft. Boom, Double Drum.

1324 Widener Building

## CRANES

### AIR COMPRESSOR

- 1—1955 Cu. Ft. Steam Driven Ingersoll-Rand Air Compressor. Available for immediate inspection and shipment from Philadelphia.

### LOCOMOTIVE

- 1—13x18 American Saddle Tank, 30 Ton Locomotive Machine, completely rebuilt and in first-class condition. Boiler completely retubed, new tires, new flues, etc.

### STEAM SHOVEL

- 1—Marion 21 Steam Shovel mounted on full cater-

## CRANES

pillar traction. Equipped with 3/4 yd. Dipper and extra long dipper stick. New 1920. Fine Shape.

- 1—Marion 21 Steam Shovel Caterpillar Traction, 3/4 yd. Dipper, 15' Dipper Stick, No. 4230. Excellent condition.

- 1—Marion 31 Steam Shovel Caterpillar Traction, 1 yd. Dipper, 12' Dipper Stick, No. 4134. Good Condition.

- 1—Osgood 18 Steam Shovel Traction Crane 3/4 Yd. Dipper. Also 36' Steel Boom, as Crane Shop No. 472.

**B. M. WEISS**

Phone Locust 4816

Philadelphia, Pa.

## LOCOMOTIVES and CARS

- 4—100,000 cap. flat bottom gondolas.
- 1—140,000 cap. all steel flat car.
- 4—60,000 cap. steel undr. dump cars.
- 2—10x16 cyl. 36 in. ga. saddle tanks.

**WALTER A. ZELNICKER SUPPLY CO., ST. LOUIS**  
Rails, Track Material, Steam Shovels, Tanks.

## RAILROAD and CONSTRUCTION EQUIPMENT

### IMMEDIATE DELIVERY

**Thomas F. Carey Co.**  
120 Liberty St., New York, N. Y.

## FOR SALE—SECOND-HAND. STEAM SHOVELS & ROAD ROLLERS

Marion 31 & 21 Caterpillar Tractions  
Many other sizes and makes.

**Austin & Kelly—Springfield Road Rollers**

12 & 10 ton 3 wheel, Steam & Gas.

### TANDEM ROLLERS

Several sizes and makes, Steam & Gas.

All bargain prices.

**WILSON TANK & CULVERT CO., Inc.**  
San Antonio, Texas

### FOR SALE.

- 1—14x24 Baldwin Saddle Tank Standard Gauge Locomotive.
- 1—2x14 Baldwin Saddle Tank Standard Gauge Locomotive.
- 1—Erie 3 Traction Steam Shovel.
- 1—10 Ton Industrial four-Wheel Locomotive Crane.

**Chas. T. Lehman Machinery Co.**  
Birmingham, Ala.

## HOISTING ENGINES

- 2—Lambert 7 1/2 x 10" Standard Double Cylinder Double Friction Drum Hoisting Engine with 42 x 96 Boiler fitted with Lambert No. 2 Pattern Type E Swinging Gear, used.
- 1—7 x 10" American Holst & Derrick Company's Double Cylinder, Double Friction Drum Hoisting Engine with extension Shaft, without boiler. Used.

**DIXIE MILL SUPPLY CO., INC.**  
NEW ORLEANS, LA.

## LOCOMOTIVE CRANE For Sale

One McMyer 35 ton type J. Bucket Handling Locomotive Crane, 8 wheel M.C.B. 50 ft. Boom. Will furnish with either a lap joint or A.S.M.E. boiler.

**INDUSTRIAL SERVICE COMPANY**  
Lincoln, N. J.

### BARGAIN

36" Gauge Locomotives

Good engines—Ready for service

- 1—Vulcan 10x14" 14 ton four wheel saddle tank.
- 1—American 10x16" 18 ton four wheel saddle tank.

Send for specifications and prices.  
**E. C. SHERWOOD** 50 Church St. New York

### FOR SALE

- 1—7" x 10" 3-Drum D.C. Stroudsburg skeleton Hoisting Engine complete with Swinging Gear attached, good as new.
- 300-ft. of 24" gauge Portable track, 12 lb. Rail.
- 2—1-yd. Steel Wiener Cars 2-way 24" gauge.
- 1—1-yd. Hayward Class E. Orange Peel Bucket.
- Have 16 lb. and 20 lb. Portable track, Cars, Etc.

**JOHN M. GREENE**  
Drexel Bldg. Philadelphia, Pa.

## EQUIPMENT FOR SALE

- 1—Austin Gasoline Road Roller, 10 Ton. Good order .....\$1500.00
- 1—Gallon Iron Gravel Screening Plant. Good as new .....\$650.00

**CHARLES T. EASTBURN**  
Room 803 Broad St. Bank Building  
TRENTON, N. J.

## LOCOMOTIVE CRANES

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Steam & Electric COMPRESSORS  
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5 to 100 Tons in weight, Narrow and Standard Gauge—Rod and Geared.

ALL TYPES—FOR ALL CLASSES OF SERVICE.

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- 2 Iroquois,  $2\frac{1}{2}$ -ton Tandem. 1 Iroquois, 7-ton Tandem.
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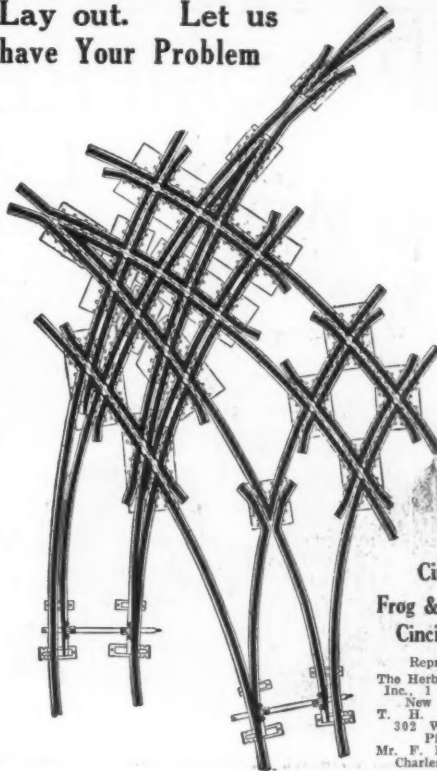
- 4—10x16" H. K. Porter 18-ton.
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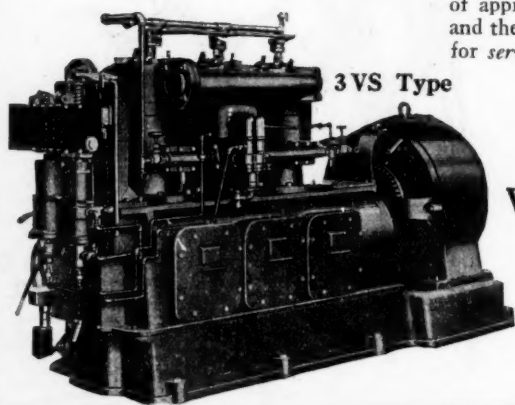
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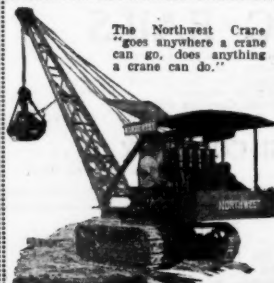
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can go, does anything  
a crane can do."

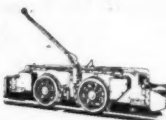
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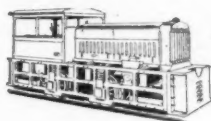
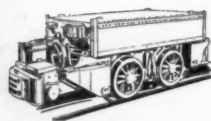


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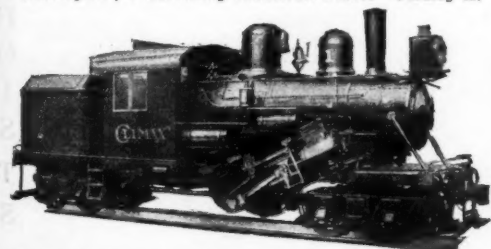
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We are building Locomotives from  
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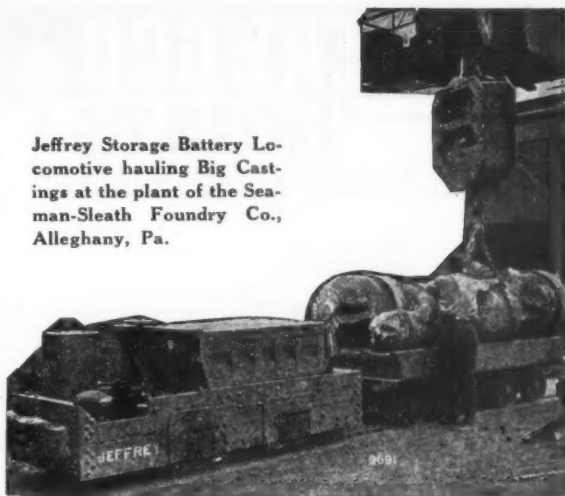
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Regardless of Severe  
Service or Weather Conditions

# JEFFREY

INDUSTRIAL LOCOMOTIVES

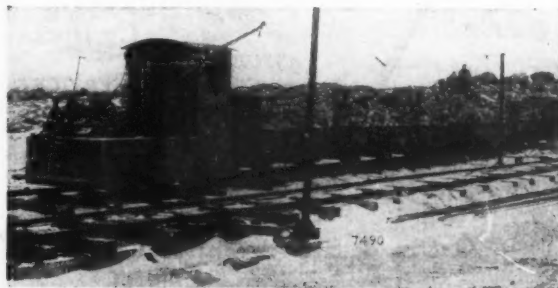
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Advise us of your conditions and let our engineers suggest the most suitable type and capacity for your requirements.

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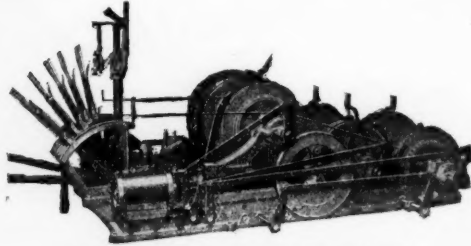
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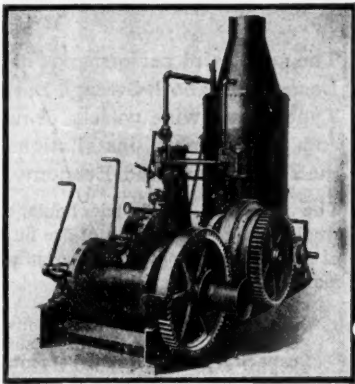
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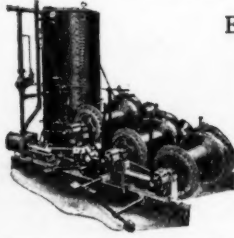
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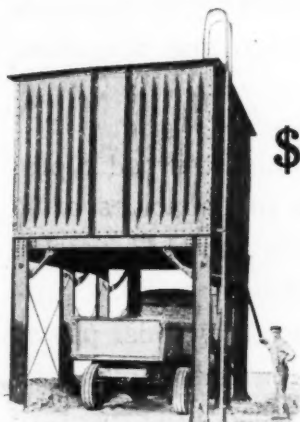
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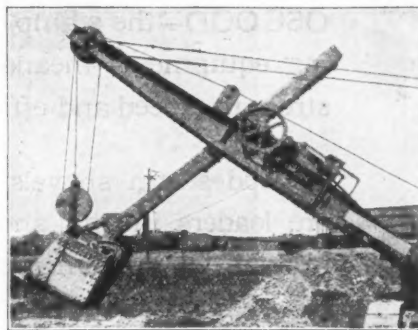
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It's the only wire rope so marked. You'll have to take a chance on getting the grade and make when using unmarked ropes.

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**A** BROWNING owner usually buys a Browning Crane for one purpose—and then finds himself profiting in a dozen other ways, some quite unexpected

For example, many a Browning more than pays interest on its investment simply by its side job as a private switch engine—all its major work counts as pure profit. Many a Browning bought simply to handle coal at the power plant finds itself in steady demand in other parts of the yard on wholly different tasks.

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**Best for All Purposes**

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It is thoroughly fireproof.

It gives stability and permanence.

Maintenance charges are eliminated.

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We produce only one grade

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**QUALITY and SERVICE**  
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Plant  
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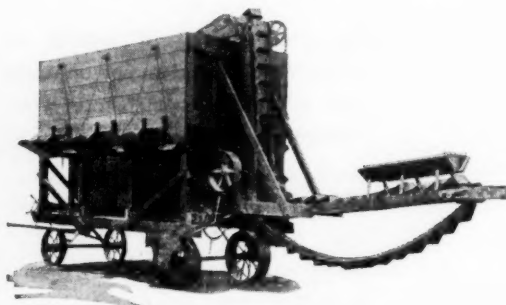
## SCRATCH GRAVEL

Priorities and transportation tie-ups resulting from strikes or other causes are nothing in the life of the owner of a Western Portable Screening Plant. In addition to the load off his mind he saves time, labor and expense.

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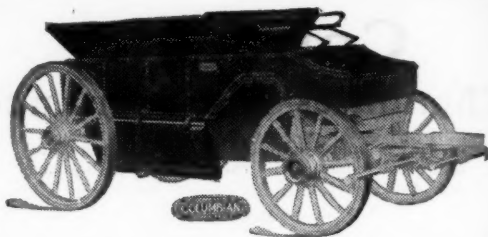
In localities where there are enough of the larger stones to make it pay to crush them, a Western Portable Crushing and Screening Plant just fills the bill.

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*"Everything from a Drag Scraper to a Road Roller."*



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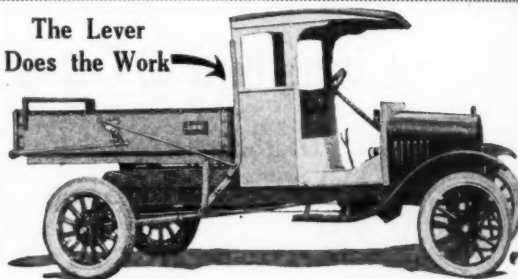
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## The Columbia Wagon and Body Co.

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*We build the Jennings Automatic Dump Body for Ford Ton and other makes of Ton Trucks. Send for circulars.*

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## A One Man Dump Body for FORD TRUCKS

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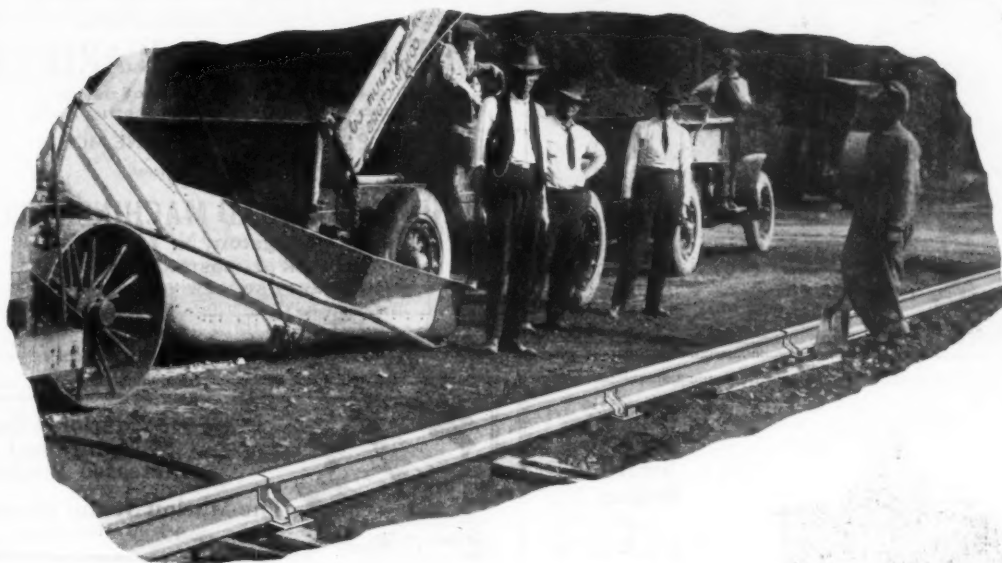
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and enables you to dump the load by the movement of a lever without any jar to the truck chassis.

The patented lever and tail gate are special Jennings Features.

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It is the easiest form in the world to set. Set the pedestals, drive a stake in each end, and hang the rail on the pedestal, and the job is ready for the concrete.

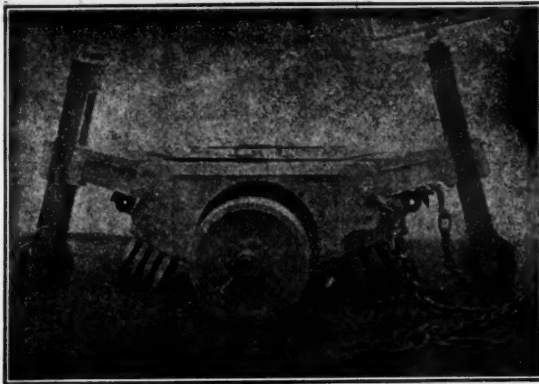
Heltzel Steel Forms stand up under the most severe punishment that can be inflicted by the finishing machine.

Heltzel Catalog should be in the hand of every Road Contractor.

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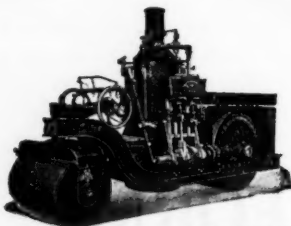
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Manufacturers of the famous Reliance line of Road Building,  
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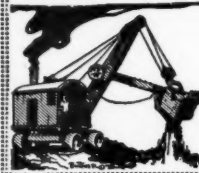
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Tandem  
Steam  
Rollers  
for  
STRENGTH  
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**ECONOMY of OPERATION and LONG LIFE**

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ERIE, PENNA., U. S. A.



**"Marion" Quality  
Maintained With  
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Road Rollers, Road Machinery, Culverts and Supplies

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**ROAD BUILDING EQUIPMENT FOR EVERY REQUIREMENT  
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**WHAT DO YOU NEED?**

We want to furnish you Full Information on any Equipment in which you are interested  
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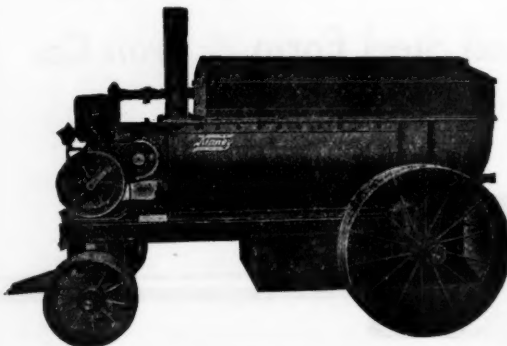
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*Kinney*  
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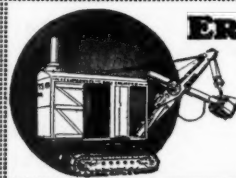
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No Steam Required.



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REINFORCEMENT FOR CONCRETE

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MAKE VERY FEW FINES. CRUSH CLOSE TO SIZE DESIRED

Capacity 10 to 250 Tons per Hour

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Complete line of Magnetic Separators for various purposes  
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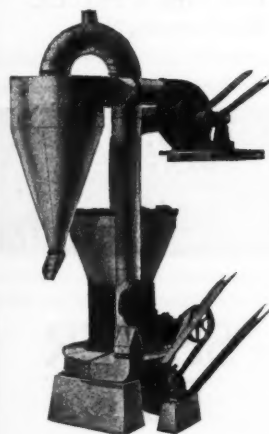
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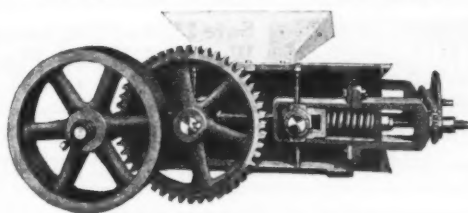
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FOR HANDLING

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WE DESIGN AND MAKE

ONE TWO AND FOUR ROLL COAL CRUSHERS  
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**RIVETED STEEL PIPE**

Smoke Stacks  
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and all classes of Steel Plate Construction for the Iron and Steel Industry.

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The kind that saves money for you. The kind that gives you that ease of mind—feeling everything is O.K. That's what you get when you use

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*The Pipe for Service*

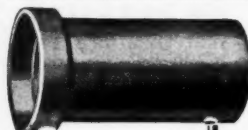
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HIGH SPEEDS, HIGH POWERS  
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A recent Test of This Type of  
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Head developed 1200 H.P.,  
134 R.P.M. Efficiency

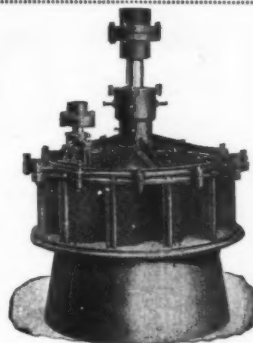
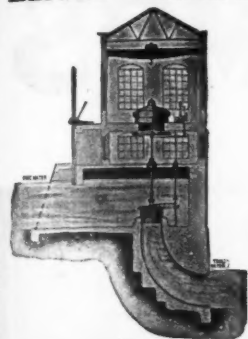
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This means longer life  
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**UNIVERSAL PIPE**  
NO PACKING NO CAULKING NO BELL HOLES

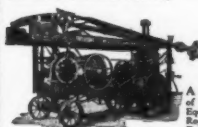
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Downie Deep Well Pumps  
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drive.

Smaller Pumps  
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ANY SIZE ANY DEPTH  
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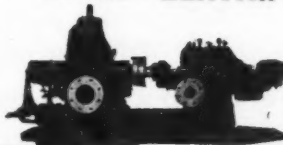


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AND DEEP WELL PUMPS**

We have a Very Efficient System of  
Pumping that we wish to tell you about.  
Write for Catalog M.

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For all purposes where  
Centrifugal Pumps of the  
better class are adopted

**The Earle Gear & Mach. Co.**  
Philadelphia, Pa., U. S. A.

**PLATT IRON WORKS - DAYTON, OHIO.**

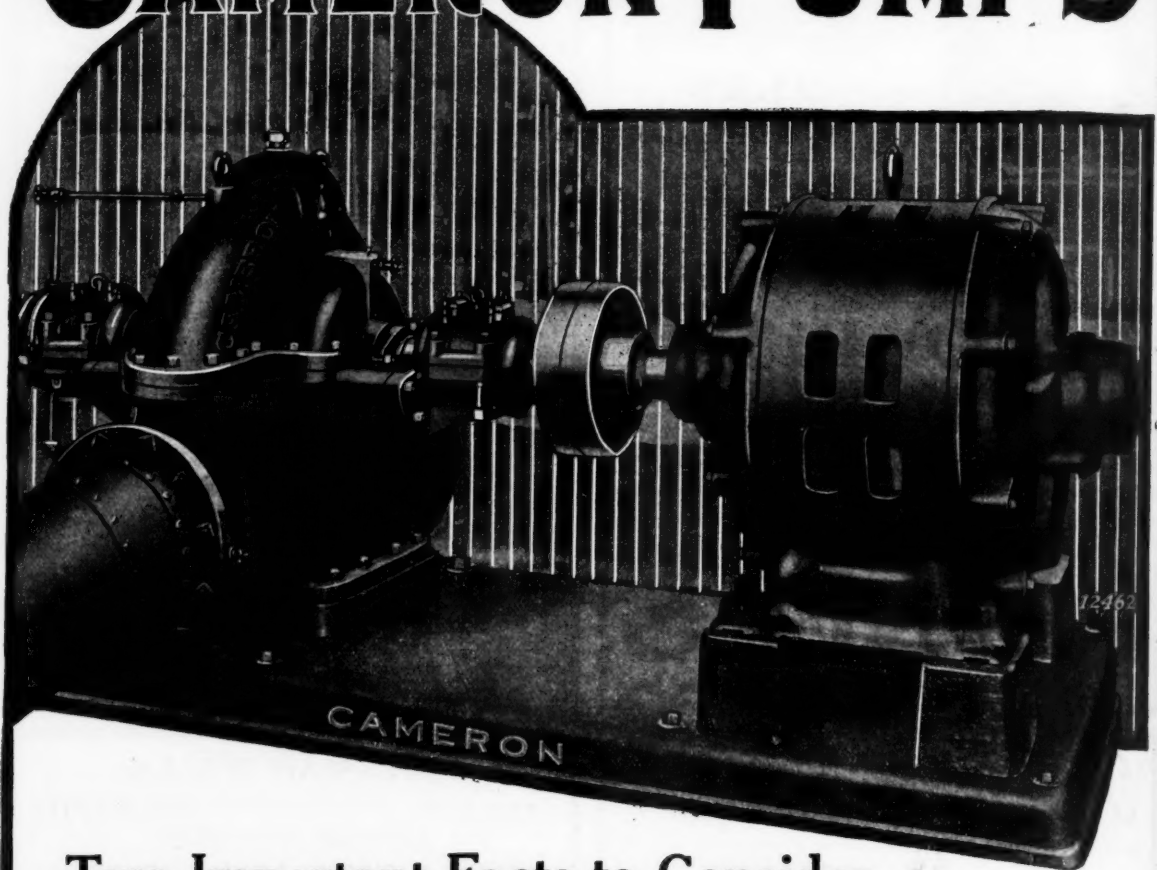
Smith-Vaile **PLATT** Pumps



Steam and Power  
Pumping Machinery



# CAMERON PUMPS



## Two Important Facts to Consider

Cameron Centrifugal Pumps have two important features: high efficiencies lasting over the entire life of the unit, and low operating and upkeep costs.

High efficiency is attained in the Cameron by a correct proportioning of the volute chambers and by an impeller that is especially designed

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Low operating and upkeep costs are assured by self-aligning bearings amply proportioned for all possible loads; a balancing port so arranged to equalize pressure on both sides of the impeller, and a sturdy, rugged construction throughout.

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# Ingersoll-Rand

A. S. Cameron Steam Pump Works

# TRANSIT PUMPS

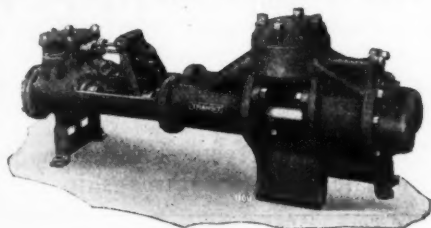


Fig. 1100

## DUPLEX PLUNGER TYPE OUTSIDE CENTER PACKED

Where the fluid handled contains more or less grit, we recommend an outside packed plunger pump. The pumping is performed by the displacement of the plungers—no rings nor pistons for the grit to cut—and the packing is easily renewed.

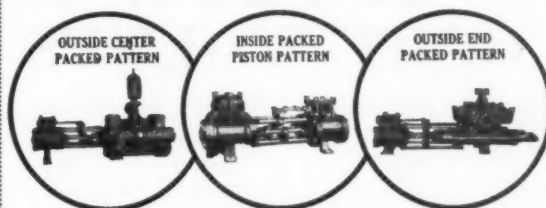
Sizes and Capacities are listed in our new bulletin 104-A.

### NATIONAL TRANSIT PUMP & MACHINE COMPANY OIL CITY, PENNA.

DISTRICT OFFICES—New York, Philadelphia, Pittsburgh, Cleveland, Houston, Denver and Kansas City

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## DURABLE DUPLEX STEAM PUMPS



NEW YORK SALES OFFICE, 141 BROADWAY  
Send for Catalog No. 187

DEAN BROS. STEAM PUMP WORKS. INDIANAPOLIS.

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A type for every service

THE GOULDS MANUFACTURING COMPANY  
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Entirely self-contained.

Practically automatic.

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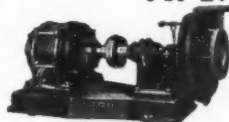


Fig. 267

SINGLE SUCTION WATER  
PUMP

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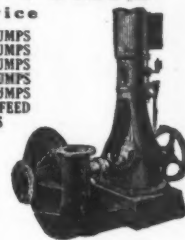
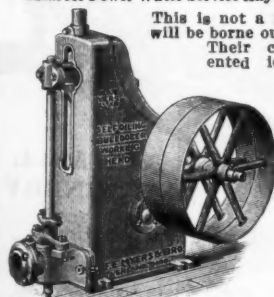


Fig. 239

ENGINE DRIVEN  
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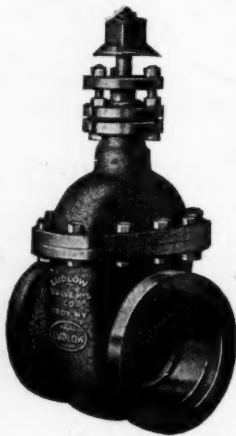
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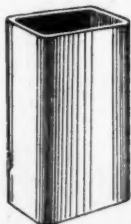
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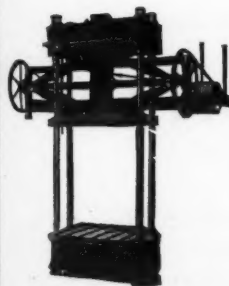
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Schofield's Iron Works, Macon, Ga.  
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Weller Mfg. Co., Chicago, Ill.  
Wood's Sons Co., T. B., Chambersburg, Pa.

### PRESERVATIVE. (Wood.)

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Platform, Freight, Mill, Factory, Etc.

Edwards Mfg. Co., The, Cincinnati, O.

### TRUST COMPANIES.

Maryland Trust Co., Baltimore, Md.

### TUBE WELL STRAINERS.

Cook, A. D., Lawrenceburg, Ind.

### TUBING.

Brass and Copper.

Chase Metal Works, Waterbury, Conn.

Mueller Metals Co., Port Huron, Mich.

### Metals.

Boiler Tube Co., of America, Pittsburgh.

Goodyear Tire & Rubber Co., Akron, O.

Wheeling Steel Prod. Co., Wheeling, W. Va.

### Seamless Steel.

National Tube Co., Pittsburgh, Pa.

### TURBINES.

Hydraulic.

Davis Foundry & Mch. Wks., Rome, Ga.

Leffel & Co., James, Springfield, O.

Smith Co., S. Morgan, York, Pa.

### Steam.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

De Laval Steam Turbine Co., Trenton, N. J.

General Electric Co., Schenectady, N. Y.

Westinghouse El. & Mfg. Co., E. Pitts.

burgh.

### TURNABLES.

American Bridge Co., New York, N. Y.

Virginia Bridge & Iron Co., Roanoke, Va.

Automatic. (Portable for Trucks.)

Champion Engr. Co., The, Kenton, O.

### TWINE.

Plymouth Cordage Co., North Plymouth, Mass.

### UNIONS.

Dart Mfg. Co., E. M., Providence, R. I.

### UNLOADERS.

Burch Plow Works Co., The, Crestline, O.

### Car.

Heltzel Steel Form & Iron Co., Warren, Ohio.

### VALVES.

Bethlehem Shipbuilding Corp., Bethlehem.

Bourbon Copper & Brass Works Co., Cincinnati, O.

Columbia Iron Wks., Chattanooga, Tenn.

Crane Co., Chicago, Ill.

Frick Co., Waynesboro, Pa.

Jenkins Bros., New York, N. Y.

Ludlow Valve Mfg. Co., Troy, N. Y.

Lunkensheimer Co., The, Cincinnati, O.

Powell Co., The, William, Cincinnati, O.

Ryerson & Son, Jos. T., St. Louis and New York.

Vogt Mch. Co., Inc., Henry, Louisville.

Westinghouse Traction Brake Co., Wheeling, Pa.

Wood Drill Wks., Paterson, N. J.

York Mfg. Co., York, Pa.

Acid-proof.

Lunkensheimer Co., The, Cincinnati, O.

Gas Producing.

Morgan Construction Co., Worcester, Mass.

Gas Reversing.

Morgan Construction Co., Worcester, Mass.

Gate.

Ludlow Valve Mfg. Co., Troy, N. Y.

### VARIABLE-SPEED TRANSMISSION.

Reeves Pulley Co., Columbus, Ind.

### VARNISH.

Berry Brothers, Inc., Detroit, Mich.

Pittsburgh Plate Glass Co., Milwaukee, Wis.

### VENEER CUTTING MACHINES.

Titus, E. E., Petersburg, Va.

### VENTILATING APPARATUS.

Engineers' and Contractors'.

Buckeye Blower Co., Columbus, O.

General Electric Co., Buffalo, N. Y.

VENTILATORS. (Roof.)

Edwards Mfg. Co., The, Cincinnati, O.

Endersing, Philip H., Baltimore, Md.

Robertson Co., H. H., Pittsburgh, Pa.

Schoedinger, F. O., Columbus, O.

### VISES.

Western Tool & Mfg. Co., Springfield, O.

### VOLTMETERS.

Weston Electrical Instr. Co., Newark, N. J.

### WAGON LOADERS.

Austin Machinery Corp., Chicago, Ill.

Bonney Supply Co., Inc., Rochester, N. Y.

Hais Mfg. Co., Geo., New York, N. Y.

Link-Belt Co., Philadelphia, Pa.

Portable Mchry. Co., Passaic, N. J.

### WASHING MACHINERY.

Ors and Phosphate.

Bailey-Leiby Co., Charleston, S. C.

Sand and Gravel.

Bonney Supply Co., Inc., Rochester, N. Y.

Link-Belt Co., Philadelphia, Pa.

### WATCHMAN'S PORTABLE CLOCKS.

Chicago Watchman's Clock Wks., Chicago.

Eco Clock Co., Boston, Mass.

Newman Clock Co., New York, N. Y.

### WATERPROOFING. (For Brick, Concrete, Granite, etc.)

Master Builders Co., The, Cleveland, O.

Sonneborn Sons, Inc., L., New York.

Texas Co., The, New York, N. Y.

### WATER PURIFICATION.

New York Continental Jewell Filtration Co., The, Nutley, N. J.

Roberts Filter Mfg. Co., Darby, Pa.

Scuffs & Sons Co., Wm. B., Pittsburgh.

### WATER-SOFTENING APPARATUS. (Purifying.)

American Water Softener Co., Phila.

International Filter Co., Chicago, Ill.

New York Continental Jewell Filtration Co., The, Nutley, N. J.

Scuffs & Sons Co., Wm. B., Pittsburgh.

Wayne Tank & Pump Co., Ft. Wayne, Ind.

### WATER SUPPLY INSTALLATIONS.

Layne & Bowler Co., Memphis, Tenn.

### WATER WELL SCREENS.

McEvoy & Co., J. H., Houston, Texas.

### WATER-WORKS SUPPLIES AND APPLIANCES.

American C. I. Pipe Co., Birmingham.

Bourbon Copper & Brass Works Co., Cincinnati, O.

Caldwell-Wilcox Co., Newburgh, N. Y.

Columbian Iron Works, Chattanooga, Tenn.

Cook, A. D., Lawrenceburg, Ind.

Glanagar Pipe & Fdry. Co., Lynchburg, Va.

Hamburg Boiler Works, Hamburg, Berks County, Pa.

Michigan Pipe Co., Bay City, Mich.

Standard Wood Pipe Co., Williamsport, Pa.

U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.

Wood & Co., R. D., Philadelphia, Pa.

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### WELDING.

Blaw-Knox Co., Pittsburgh, Pa.

### WELDING APPARATUS.

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General Electric Co., Schenectady, N. Y.

Oxy-Acetylene.

Kentucky Oxygen-Hydrogen Co., Louisville, Ky.

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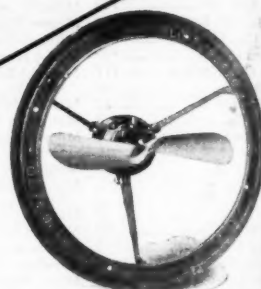
Mueller Metals Co., Port Huron, Mich



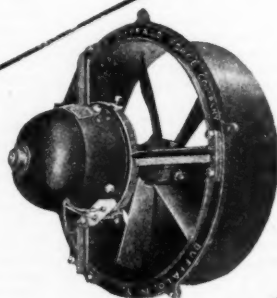
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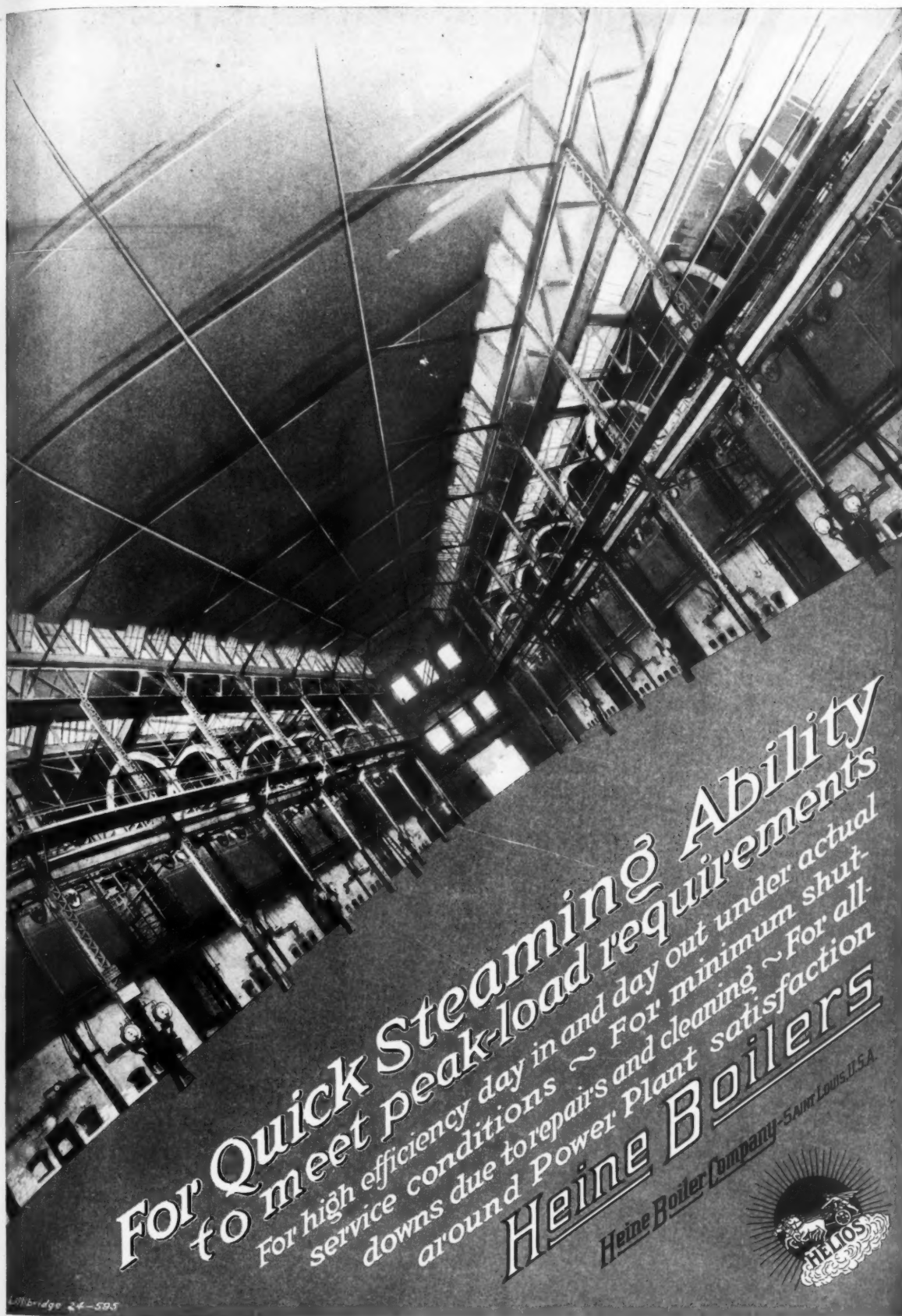
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